

## Up until now,

these were

the two best ways

to determine

noise reduction.

## editorial

If you see only one movie this summer, make it *The Truman Show*. Rarely does a film come along that more directly and effectively—incorporates architecture as the medium for its message.

Ostensibly, *The Truman Show* chronicles the dawning self-awareness of a man whose entire life has been a fabrication of the entertainment industry. In fact, the movie is an ingenious, Chinese puzzle-box parable of the diminishing distinctions between perception and reality, fact and fiction, in our vicarious, media-driven culture. The actual movie audience watches a virtual television audience that watches a "live" program about a "real" person who (at least initially) is the only one unaware of either his fictive context or the telescopic voyeurism that consumes it. The movie captures its Hollywood's deadpan rendition of Seaside's most persistent criticism, that it is too perfect; marvel at the real town's willingness to serve as the butt of its own jokes; and enjoy the movie as a devilish send-up of New Urbanism's preening self-righteousness.

The film is an even greater—and, given the industry that produced it, more appropriate—indictment of Disney's town of Celebration and its calculated conflation of nostalgia-marketing and urban design. When questioned about Truman Burbank's diorama-quality environment, one of the film's characters suggests that the town "isn't fake, it's just controlled." Chillingly, that's the same argument used by the Disnoids who are paid to defend Celebration against similar charges. And in fact, the movie comes

# Suspending Disbelief

The Truman Show poses the uneasy question, "At what price New Urbanism?" audience by acknowledging their complicity in the process—what's a TV show or movie without an audience? (Does a tree falling make a sound if no one is there to hear it?)—while simultaneously chastising them for it.

For architects, this clever conceit has even more immediacy. Truman Burbank, the film's eponymous protagonist, lives in Sea Haven, an impossibly idyllic town of clapboard houses, picket fences, and whitewashed gazebos. For movie viewers, Sea Haven is so perfectly, reassuringly familiar that it could only be an illusion, a fabrication. And indeed, the film portrays the little community as the world's largest and most elaborate film set, ultimately enclosed in a giant dome that sits astride the real Los Angeles suburb after which Truman Burbank is—inevitably—named.

Architects, however, will immediately recognize that Sea Haven is not illusory. It is, in fact, Elizabeth Plater-Zyberk and Andres Duany's famed Seaside, the New Urbanist Mecca in Florida's panhandle. Architects, and even modest admirers of New Urbanism's goals, can laugh at closer to capturing the "Big Brother is watching" discomfort one feels when visiting Celebration (*Architecture*, August, 1997, pages 114-119) than any of the thousands of words that have been written on the subject.

Ultimately, Sea Haven, Seaside, Celebration, and their New Urbanist kin are like movies in that they ask us to suspend disbelief, to accept their nostalgic premise uncritically. And it's tempting to comply. We peer in at these new townsthe very embodiment of a Mayberry mentality-and wonder why our communities can't be more like them: all that confected innocence. We wonder just how much identity, freedom, or variety we're willing to sacrifice in order to purchase the stability these places seem to offer in an increasingly unstable world. More disturbingly, when faced with a decision of whether to succumb to the sweetness, I wonder how many of us, architects and non-architects alike, would side with Truman Burbank (who ultimately leaves Sea Haven), and vote with our feet. Reed Kroloff



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### Continuing debate

Your June editorial (*Architecture*, page 11) identified many serious concerns about the AIA's Continuing Education (CE) System, which many AIA members share. This letter responds to the specific criticisms you made about the value of reading magazine articles and taking the associated quiz to earn Learning Units (LUS).

There should be no argument about the merits of learning from reading well-written articles. Checking your answers is in itself an education: To be found wrong results in a stronger awareness of the correct answers.

As for those who have their secretary fill in the self-report forms, it is meant to be an honor system. Imagine the outcome of a malpractice suit if the prosecuting attorney asked about the particulars of system failure, the subject of an article that the defendant's CE transcript indicates he or she submitted (fraudulently) for LU credits! *Kellogg Wong Pei Cobb Freed & Partners New York City* 



#### Car coverage

As a volunteer at the Petersen Automotive Museum, I have been quizzing my fellow docents to see who might recognize the manufacturer, brand, and model year of the dashboard on the May 1998 cover. Could you identify it? *Jim Mount Los Angeles* 

My husband, a car enthusiast, recently pored over your May issue. Something is puzzling him, though, so I thought to ask you: What is the year, make, and model of the car you depicted on the cover? Siobhan McAfee Flourtown, Pennsylvania

Editor's note: A spokesperson for Chrysler identified the dashboard as belonging either to a 1960 or 1961 AMC Rambler.

#### No rest

I read Eric Adams' article, "Unrest in Reston" (*Architecture*, May 1998, page 91), with dismay. Adams apparently missed exposure to a balanced view and an opportunity to portray the real Reston.

The community was developed according to principles established by developer Robert E. Simon, Jr., which shaped the master plan for Reston's growth and inspire an active citizenry. Through the Planning and Zoning Committee and the Design Review Board, residents play a key role in ensuring that Reston's development meets these established standards.

While still a work in progress, Reston Town Center is a focal point for the community, an employment center, and an entertainment venue. The construction of the next phase of Town Center is under way, and the community is excited about its continuing vitality.

The world studies Reston Town Center as a model to be replicated elsewhere. I am proud to be a Restonian. I regret that Adams chose not to write about the real Reston; that's the story worthy of an article in Architecture. Philip E. Tobey Tobey + Davis Reston, Virginia

#### St. Louis rising

It's hard to imagine that in 1998 based on one event attended by 40 people and a number of out-of-date facts—that outcomes for St. Louis in the year 2004 could be so blithely predicted by Bradford McKee. In "St. Louis Blues," (*Architecture*, April 1998, pages 35-41), McKee presents a false, damaging portrayal of St. Louis.

Despite McKee's contrary assertions, there is a regionwide effort to make St. Louis an example of how a community can reinvent itself. Had his article been written years ago, it might have been

### letters

accurate; that spirit of negativism, however, is not the case today.

Recent solutions in St. Louis prove revitalization is occurring both downtown and regionally. New state historic tax credits are boosting efforts throughout the entire city, including the downtown loft district, in which arts and housing initiatives intermingle.

As one who teaches aspiring young architects, I see a great future for this community. I encourage students and faculty alike to become involved in these efforts. Although time will tell, all the evidence would indicate a bright future, given the many positive aspects of the city of St. Louis and the genuine effort to chart its rebirth. *Cynthia Weese Dean, School of Architecture Washington University St. Louis* 

#### Milwaukee success

On behalf of our entire community of students, staff, and parents, thank you for recognizing the Milwaukee Montessori School in your recent awards issue (Architecture, April 1998, pages 88-89). We credit Architecture with helping us attract new funding and material donations. We greatly appreciate the role your magazine played in the project. Mary Kenngott, Executive Director Milwaukee Montessori School Milwaukee

#### CORRECTIONS

Tuck-Hinton Architects is the lead architect for the conversion of the U.S. Post Office in Nashville, Tennessee (*Architecture*, June 1998, page 31). Quinn Evans/ Architects acted as preservation consultant to the project.

The photograph of the public lobby at FORE Systems' Headquarters in Warrendale, Pennsylvania (*Architecture*, May 1998, page 147), is by Lockwood Hoehl.

#### WE WANT TO HEAR FROM YOU!

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city	dates	exhibition	contact
Los Angeles	through October 11	Walker Evans: New York at The Getty Center	(310) 440-7300
	through October 18	Port and Corridor: Working Sites in Los Angeles, Photographs by Robbert Flick and Allan Sekula at The Getty Center	(310) 440-7300
Montreal	through November 8	The American Lawn: Surface of Everyday Life at the Canadian Centre for Architecture	(514) 939-7000
New York City	through October 6	Aleksandr Rodchenko at the Museum of Modern Art	(212) 708-9400
Pittsburgh	through October 25	Manchester: A Neighborhood Sketchbook at the Carnegie Museum of Art	(412) 622-3131
Stamford, Connecticut	through August 26	Where: Allegories of Site in Contemporary Art at the Whitney Museum of American Art at Champion	(203) 358-7630

Whitney exhibition considers such site-specific sculptures as Gordon Matta-Clark's Étant d'Art Locatoire (1977).



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#### calendar

city	dates	conference	contact
Chicago	September 23-27	Annual Conference of The Frank Lloyd Wright	(312) 663-1683 fax
		Building Conservancy	
Portland, Oregon	October 2-6	The American Society of Landscape Architects	www.asla.org
		Annual Meeting and Expo	
San Jose, California	August 12-14	alt.office Conference and Expo West	(800) 950-1314
Toronto	September 23-24	North American Conference on Roofing Technology	(847) 299-9070, ext. 276
	October 1-2	IIDEX/NeoCon Canada	(800) 677-6278
Vancouver	October 26-28	Green Building Challenge '98	(613) 996-9909 fax



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# competitions

competition	deadline	contact
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sponsored by the Van Alen Institute and Manhattan Community Board #2	(registration)	
Excellence on the Waterfront Awards, sponsored by The Waterfront Center	September 11	(202) 337-0356
<b>Republic Park Design Competition</b> , sponsored by the Australian Institute of Landscape Architects and the University of New South Wales	September 11	www.aila.org.au
Urban Housing for the 21st Century, student competition sponsored by the International Union of Architects	September 15	(86) (29) 552-7821 fax
Wood Design Awards Program, sponsored by the Wood Products Promotion Council	September 18	(703) 733-0600
Canadian Centre for Architecture Visiting Scholars Program	November 1	(514) 939-7000
Progressive Architecture Awards, sponsored by Architecture	December 1	(212) 536-6221
See additional listings on our Web site: www.architecturemag.com	Makoto Sei Watanabe's 1997 Waterfront Award-winning community center in Japan	



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# WHEN IT CAME TO RENOVATING THIS HISTORIC COURTHOUSE, EVEN THE

In 1964, The Parker County Courthouse in Weatherford, Texas was designated a Texas Historic Landmark. And thus began the slow, methodical process of restoring it. First to receive attention was the structure's limestone stonework. Later, the roof was replaced. Then came the windows, which proved to be one of the most challenging aspects of the project.

The Historical Survey Committee mandates that if nothing remains of a historic

building's original windows, the new ones must be faithful reproductions, right down to the last detail. Since the courthouse's original wood windows had been replaced by aluminum ones some years back, that meant that all 105 of the new windows had to be virtually identical to those made and installed over a century ago.

Bids were sought, but only two manufacturers felt qualified to respond. One of them, Marvin Windows & Doors, had actually been recommended by a company that was asked to bid but declined.

Though underbid by the other finalist, Marvin's figures were based on building the largest windows with structural muntin bars to withstand the winds that buffeted the building's hilltop site. Intrigued, the architect asked each company to build a sample window. One look at the prototypes and the job was immediately awarded to Marvin.

For the next several weeks, Marvin's architectural department busied itself recreating the past. Working from turn-of-the-century photographs



minum to s

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of the courthouse and measurements of the actual openings, they designed the round tops, double hungs, circles and checkrail units that play such an integral role in the building's design. As for the largest of them, not only were they built to withstand the high wind requirements, Marvin delivered them factory-mulled to further simplify installation.

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Wright's rotunda (above) meets Gehry's glam; Philippe Starck designed Aprilia Moto 6.5 (bottom, 1995).

# Boss Hogs

Elevating biker culture to high art, The Solomon R. Guggenheim Museum's exhibition, The Art of the Motorcycle, explores America's preoccupation with the romance and danger of motorcycles. Frank Gehry soups up Frank Lloyd Wright's legendary ramp with dizzying chrome plating and foot-tall neon letters. Curated by a team led by the Guggenheim's Ultan Guilfoyle and University of Arizona physics professor Charles Falco, the straightforward chronology running up the ramp uses such varying historical cues as Josephine Baker and the Rubik's Cube to fix the bikes in the cultural continuum. Among the highlights are a 1962 Vespa GS and a replica of the 1969 Harley-Davidson chopper Peter Fonda piloted in that year's road epic, Easy Rider. A darkened "sidecar" gallery at the top of the ramp shows the cycles in action: Under an oversized image of Arnold Schwarzenegger as the "Terminator," a collection of this decade's best bikes-some caught mid-wheelie-burn up an undulated rubberized platform resembling a motocross track. Motorcycle rides through September 20 and then hits the road in November for the Field Museum of Natural History in Chicago. Michael J. O'Connor



## The Plagues of Taliesin

Officials at Taliesin in Spring Green, Wisconsinonce Frank Lloyd Wright's eastern compound, now home to his namesake foundation-are just waiting for the frogs and locusts to show up. Strong winds on June 18 sent a 55-foot-tall,



225-year-old white oak tree with a 100-foot leaf canopy crashing through Wright's drafting studio (1911), the oldest portion of the complex. Just 10 days later, mudslides—an anomaly in Wisconsin tore through the hilly complex, exposing a key structural pier that supports a balcony in Taliesin's administrative wing. Juli Aulik, director of the Taliesin Preservation Commission, reports that their meticulous documentation of the National Historic Landmark will facilitate cosmetic repairs. Testing is still under way to determine the structural and financial impact of these events. Aulik emphasizes, however, that the site will remain open during cleanup and restoration. *M.J.O.* 

(See more photos of the damage at www.taliesinpreservation.org.)

# Say Au Revoir to Gehry's American Center

Last month, the French Ministry of Culture announced its intention to acquire Frank O. Gehry & Associates' American Center in Paris (1994, below) to house the Maison du Cinema, a film library and theaters. This ends two years of scrambling by the financially beleaguered cultural organization to sell off its greatest—and only remaining—asset.



When the American Center announced it was leaving its popular but crowded Left Bank location in the mid-1980s to build Gehry's shock of subverted geometry in Bercy, a developing neighborhood in eastern Paris, critics scoffed that the Center was overextending itself. The organization committed nearly \$41 million—almost all its resources—to the building and hoped Gehry's new, high-profile facility would attract renewed interest (read: donations). That gamble never paid off.

Annual operating costs of \$6 million combined with compounding debts forced the Center's board of directors to close the building in January 1996, only 19 months after it opened. Last December, a loan from the New York Citybased nonprofit Bohen Foundation settled arrears with the French government to the tune of \$3.4 million. Albeit homeless, the 67-year-old American Center still exists legally. Frederick B. Henry, chairman of the board of the American Center (and president of the Bohen Foundation), hopes the revenues from this sale (reported to be close to \$21 million) will allow the American Center to rebuild: "We can . . . now prepare to continue the center's mission of supporting cultural, educational, and artistic activities."

Jean-Claude Moreno, head of the French Ministry of Culture's building office, suggested that Gehry might consult on changes made to the building before the Maison du Cinema opens in 2000. *M.J.O.* 

## D.C.(isions)

At last month's meeting of the National Capital Planning Commission (NCPC), officials approved plans for a new World War II Memorial and voted to permanently close a section of Pennsylvania Avenue that runs along the White House's north side to automobile traffic. These approvals end two of Washington, D.C.'s most contentious, drawnout preservation battles in recent memory.

The NCPC-approved version of the World War II Memorial—an austere water garden with arched granite portals to the north and south—is but a distant cousin of its original iteration, a bermed, sunken plaza with an overscaled colonnade and underground museum spaces (Architecture, March 1997, pages 62-63).

In May 1995, preservationists criticized Congress's decision to close Pennsylvania Avenue between Jackson and Madison places in response to security breaches (<u>Architecture</u>, August 1995, page 15). NCPC has finally approved a permanent plan to replace temporary concrete barriers with steel bollards, install gatehouses at Lafayette Park's east and west entrances, and remove a small lodge at the park's center. *M.J.O.* 



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### Monumental Gift

Every two years, the World Monuments Fund releases a list of the 100 most endangered historic sites around the globe. This year's group ranges from decaying architectural treasures such as **Constructivist Konstantin Melnikov's** Russakov Club theater (1928) in Moscow to Fort Apache, an 1870s Native American settlement in Arizona. In June, the Fund announced a \$1 million grant from its major supporter, the American Express Company, that will help save 19 of the listed sites. Additional grants from The Bay Foundation, music mogul Ahmet Ertegun and designer Mica Ertegun, the Samuel H. Kress Foundation, and the **Robert W. Wilson Challenge Grants,** totaled \$1.3 million. Ned Cramer



American Express's \$1 million donation to World Monuments Fund will help restore Melnikov's Russakov Club (1928, left) in Moscow and 16th-century Uch Monument Complex in Pakistan (right).

# Classic Stern

Nashville, Tennessee, Mayor Phil Bredesen has announced that New York City-based Robert A.M. Stern Architects and Hart Freeland Roberts of Brentwood, Tennessee, won the commission to design Nashville's new downtown library, besting Hardy Holzman Pfeiffer Associates and Michael Graves Architect. Stern's three-story, 290,000-squarefoot building sits across from William Strickland's State Capitol (1845) and evokes



the forms and materials of Edward Dougherty's neighboring War Memorial Building (1925). An entrance lobby, a local history room, gallery, and barrel-vaulted reading room sit in neat rows around a central garden courtyard. The library will open in 2001. *Michael J. O'Connor* 

# Buzz

Entertainer Michael Jackson and entrepreneur Don Barden have proposed a \$1 billion casino resort on Detroit River's shores. But don't pack your bags for the Majestic Kingdom (their name for the complex) just yet: It seems Jackson and Barden can't proceed without a casino license. And since Michigan has already assigned its allotted three, Lady Luck may not be on the King of Pop's side.

Could Americans buy the Eiffel Tower? A consortium that includes Horsham, Pennsylvania-based GMAC Commercial Mortgage (a subsidiary of General Motors) and Texas's Bass Brothers is planning to purchase a majority stake in financier Credit Foncier de France, which owns the tower's operating company. Francophiles fear not: French law deems the tower the inalienable property of the City of Paris.

Spain's Enric Miralles will design Scotland's new Parliament building in Edinburgh, beating out New Yorkers Richard Meier & Partners and Rafael Viñoly Architects; British architect Michael Wilford and Partners; and Melbourne, Australia-based Denton Corker Marshall.

In Manhattan's Theater District, **Rem** Koolhaas and **Richard Gluckman** broke ground last month on their new collaboration, the Second Stage Theater. The 6,000-square-foot theater will open in February 1999. Around the corner from Second Stage, **Architecture Research Office** will replace Times Square's 1950s Armed Forces Recruiting Station with a sleek, 520-square-foot stainless steeland-glass pavilion. The station will debut this New Year's Eve.

news

**OBITUARIES: Lucio Costa**, 96, **Oscar Niemeyer**'s partner in the design of Brasilia; DMJM founding partner **Daniel Mann**, 86; and **Charles Kanner**, 67, partner of L.A.-based Modernists Kanner Architects.

In Saratoga, California, the Villa Montalvo's Artist Residency Program has selected five architects to collaborate with artists to create 10 residential cottages on the program's 175-acre campus. Hodgetts + Fung will team with novelist Lisa See: Jim Jennings will work with sculptor Richard Serra and poet Csezlaw Milosz; Mark Mack and artist David Ireland will coauthor a cottage; Adele Naudé Santos has chosen artist Doug Hollis; and Daniel Solomon will jam with jazz musician Patrick Gleeson and artist Nellie Solomon. Villa Montalvo plans to finish the cottages in 1999.

L.A.'s Otis College of Art and Design is sponsoring an invited competition for a 40,000-square-foot "signature building" on its 4.5-acre campus: Coop Himmelblau, Mark Mack, Frederick Fisher and Partners, Hodgetts + Fung, and Guthrie + Buresh will compete. \*



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A new exhibition at the Canadian Centre for Architecture explores America's obsession with its green acres. More than 325 million blades of grass, a regulation 2 1/2 inches high for summer, whisper sweet nothings in a guttural baritone: "Step on me... walk all over me... sit on me... dominate me... run your fingers through my blades ..." So says the front lawn at the Canadian Centre for Architecture (CCA) in Montreal, in a fitting introduction to *The American Lawn: Surface of Everyday Life*, the fifth and final exhibition in CCA's "The American Century" series.

The exact number of blades (325,293,680) was calculated by artist Mel Ziegler for a piece called "Growing Concern." Men in black dinner jackets pushed mowers through the grass on the show's opening night, spelling out the amount in CCA Director Phyllis Lambert's handwriting. The resulting shaggy digits contrast with the clipped field on which they sit, a reminder of the universal mandate to cut grass on a regular basis. The commands emanate from flat green microphones resembling lawn sprinklers. Architects Elizabeth Diller and Ricardo Scofidio, part of a sixperson curatorial team made up of Princeton faculty members Beatriz Colomina, Alessandra Ponte, Georges Teyssot, and Mark Wigley, provided the talking grass and the exhibition's other installations. Teyssot, who initiated the project, is editing a volume

Diller + Scofidio's assertive installation includes table (above) that displays different grass varieties in gallery devoted to the science of lawn maintenance.

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review

of essays on the American lawn (Princeton Architectural Press) which, disappointingly, will not be available until February 1999.

The exhibition proper is a witty and entertaining look at an everyday but often overlooked subject. The lawn's role in *Surface* of *Everyday Life* places the show squarely in the middle of the current interest in the commonplace. And, indeed, the exhibition's curatorial emphasis is deliberately more socioeconomic than architectural. It stresses what takes place on or in relation to the lawn, rather than the lawn itself, as part of the larger physical environment, or as the product of an Anglo-European legacy.

The exhibition covers a number of topics: the suburban yard; sports fields (dozens of pairs of cleated shoes on metal legs support a long glass table as if the viewer were below the grass looking up); the "power lawns" of corporate headquarters and the White House; and the "lawn noir" of David Lynch and Stephen King films. The darkened entrance gallery features a moving image of a lawn sprinkler projected onto a welcome mat as well as lawn-care equipment and protective gear assembled as a human figure on the wall. Other galleries contain lawnmowers as well as plugs of patented grass, alongside their artificial alternatives. "The Museum of the Lawn," curated by Alessandra Ponte, is a mock 19th-century curiosity gallery of historic artifacts, including such familiar icons as pink flamingos, plaster deer, and gnomes.

There's no shortage of kitsch in this well-researched show, but some of the laughs are a bit predictable and prey on an easy target: the obsessions and foibles of the suburban middle classes. Diller and Scofidio's highly-crafted displays, however, are more thoughtfully developed. Fabricated of glass, mirrors, and steel with plenty of electric cables, light boxes, magnifying glasses, and stereoscopic viewers, they create the atmosphere of a laboratory gone slightly awry. Ultimately, their aggressive installation carries the show. *Christian Zapatka* 

Architect Christian Zapatka is the author of The American Landscape (Princeton Architectural Press, 1996) and is a 1991 Fellow of the American Academy in Rome.



**IICHEL LEGENDE** 

In section of exhibit dealing with playing fields, photographs of golf courses and sports arenas frame glass table with upside-down athletic shoes for legs.

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Around the country, architectural bookstores are becoming focal points for local design communities. By Henry Urbach

Books and journals are tools: Their words and pictures orient ourselves, shake off old habits, discover different perspectives, and help us move forward. Architectural bookshops invite us to see and buy these tools; in this sense, they are a lot like hardware stores. Packed yet orderly, they gather images on their shelves, offering us not only things we absolutely need, but also opportunities for chance encounters with ideas, images, and people we might enjoy. At their best, architectural bookstores operate as magnetic centers, bringing together professionals, academics, and the interested public.

Many bookstores offer a selection of architectural titles; university bookstores often present substantially more. However, stores that identify themselves as architectural bookshops form a distinct category. It is these stores, with their capacity to reach toward the obscure and the idiosyncratic, that best capture the promise of a good hardware store.

This particular round-up of architectural bookstores includes some omissions: Rizzoli, with several locations across the U.S., carries a fine selection of design books and magazines. Museums bookstores, like those at the Cooper-Hewitt, National Design Museum and the Museum of Modern Art in New York City: the San Francisco Museum of Modern Art; and the Wexner Center for the Arts in Columbus, Ohio, likewise offer a strong selection of new titles, but are not represented here. That said, here's a glimpse at a dozen of the top architectural bookstores around the country.

#### ATLANTA

#### Atlanta's 21-year-old nonprofit Architectural Book Center

occupies a shop in the Peachtree Center Mall and presents a wide range of new titles on architecture and interior design, along with art, technical, and children's books. According to manager David Johnson, books are sold mostly to local design professionals, the business community, and tourists. This shop is part of a small group of bookstores located across the country-including Indianapolis, Philadelphia, and Washington (in partnership with Rizzoli Books)-that operates in association with a local chapter of the American Institute of Architects.

Architectural Book Center, 231 Peachtree Street, Suite B-4, Atlanta, GA 30303; (404) 222-9920, (404) 222-9916 fax

#### CAMBRIDGE, MASSACHUSETTS

Situated on the ground level of a 19th-century house near Harvard Square, Cambridge Architectural Books is the leading specialty bookshop for architecture and related fields in the Boston area. The store was founded six years ago by Paul Robertson (who worked for many years with the eminent San Francisco bookseller, William Stout), and it offers, in Robertson's words, "a miniature version of William Stout's shop." With nearly 7,000 titles in its database, Cambridge Architectural Books caters primarily to an academic audience from Harvard University and the Massachusetts Institute of Technology.

Cambridge Architectural Books, 12 Bow Street, Cambridge, MA 02138; (617) 354-5300, (617) 354-1932 fax; www.archbook.com

#### **CHICAGO**

Wilbert and Marilyn Hasbrouck began selling architectural books and publishing a quarterly journal about the Prairie School in the early 1960s. From this enterprise grew one of the country's most important architectural booksellers, the Prairie Avenue Bookshop (co-owned by Beth Eifrig). With an enormous selection of architectural monographs, including just about everything in print on the Chicago School, Prairie Avenue presents over 8,000 new and 500 to 2,000 out-of-print titles. The first American store to carry the internationally renowned journal Global Architecture. Prairie Avenue continues to offer a wide range of foreign and university journals and magazines. About half of the company's sales come from its annual catalog, the largest in the English language. "We have worked very hard," boasts Wilbert Hasbrouck, "to make this what we think is one of the very best bookshops in the world." The handsome store was designed by its owners, and customers can see-and use-original and reproduction furniture by Frank Lloyd Wright, Charles Rennie Mackintosh, Ludwig Mies van der Rohe, and Le Corbusier.

Prairie Avenue Bookshop, 418 South Wabash, Chicago, IL 60605 (800) 474-2724 and (312) 922-8311, (312) 922-5184 fax beifrig@interaccess.com, www.pabook.com



Original and reproduction furniture by Frank Lloyd Wright graces Chicago's Prairie Avenue Bookshop (above), a reference to store's Prairie School origins.

#### HOUSTON

Brazos—Spanish for arms—is also the name of the longest river that begins and ends in Texas. The word captures something of this store's ambition. Founded by owner Karl Kilian in 1974, Brazos Bookstore focuses on literature, the visual arts, and architecture. It is situated in a relatively pleasant strip mall close to Rice University and profits, in Kilian's words, from "a climate with a lot of interest in architecture and the money to support it." Students and young professionals enjoy the careful selection of design titles (mostly monographs and major journals), as well as works about the landscape, history, criticism, and critical theory. Exhibitions, lectures, and readings add to the store's significance as a regional center of architectural discourse. Kilian recently showed films by Charles and Ray Eames and exhibited prints by German photographers Bernd and Hilla Becher. Brazos Bookstore, 2421 Bissonnet Street, Houston, TX 77005 (713) 523-0701, (713) 523-1829 fax



#### LOS ANGELES

Form Zero, among the most beautiful architectural bookshops anywhere, was designed by its owner, architect Andrew Liang. Located in Frank Gehry's Edgemar complex in Santa Monica, Form Zero offers a well-chosen selection of more than 8,000 titles, many of them difficult to find elsewhere in the U.S. Form Zero also presents a regular program of lectures by

architects and other creative professionals, including graphic and film production designers, as well as four exhibitions per year. Recent shows included furniture designs by Alvaro Siza, projects by Wes Jones, and photographs by Gerald Zugmann. With this hybrid program, Liang aims "to broaden the architectural discourse in Los Angeles to connect this community with global design issues."

Form Zero Architectural Books + Gallery, 2433 Main Street, Santa Monica, CA 90405; (310) 450-0222, (310) 450-0071 fax formzero@formzero.com, www.formzero.com



Hennessey + Ingalls began as an antiquarian book shop in 1963 on Wilshire Boulevard; now, from its large storefront on Santa Monica's Third Street Promenade, it offers about 25,000 art, architecture, photography, and designrelated titles and roughly 3,000 out-of-print, obscure, or rare books. According to manager Robert Barrett, "we stock everything we can possibly get our hands on." Hennessey +

Ingalls also publishes books on Californian architecture, including reprints of influential texts such as Esther McCoy's 1960 classic, *Five California Architects* (1987). In addition to its academic and professional clientele, Barrett reports, Hennesey + Ingalls does a brisk business with art directors from the movie industry. *Hennessey* + *Ingalls*, 1254 *Third Street Promenade*, *Santa Monica*, *CA* 90401; (310) 458-9074, (310) 394-2968 fax; HIBKS@aol.com, members.aol.com/HIBKS/index.htm

#### **NEW YORK CITY**

**Perimeter Books** recently moved to a new location around the corner from SoHo's Storefront for Art and Architecture. Owned by Kazumi Futagawa, Perimeter is guided by a keen sense of what matters now. Futagawa's shop presents titles that walk, in her words, "the border between art and architecture—works that are more inspirational than practical." Monographs, historical texts, and theory books are well represented, as are books that deal with film, land art, and public art. "We're not the type of store that sells standard, traditional publications," Futagawa says. "We do much better with more conceptual and theoretical books, and I appreciate the freedom to offer that material." *Perimeter Books, 21 Cleveland Place, New York, NY 10012 (212) 334-6559, (212) 334-6560 fax; peri@interport.net* 

**Urban Center Books**, a nonprofit project of the Municipal Art Society of New York, was founded in 1980 with support from the J.M. Kaplan Fund. Located in the landmark Vuillard Houses on Madison Avenue (also home to the Parks Council, the Architectural League of New York, and the Municipal Art Society), the bookstore carries about 10,000 current titles in architecture, interiors, urbanism, city planning, and related fields, including a fine selection of monographs, as well as a strong journal and magazine section with about 60 titles. Urban Center also stocks what manager Peter Philbrook calls "fairly hard-core books" on construction, engineering, and other areas of technical expertise. The shop serves local professionals and students, as well as an enthusiastic foreign clientele.

Urban Center Books, 457 Madison Avenue, New York, NY 10022 (800) 352-1880 and (212) 935-3592, (212) 223-2887 fax uc\_books@usa.pipeline.com, colophon.com|urbancenterbooks

#### PHILADELPHIA

Joseph Fox began taking books around to architectural firms in the early 1950s; Louis Kahn was one of his early customers. Now the bookshop, run by Fox's son, Michael, has the most extensive selection of architecture and design books in the Philadelphia area. Located near Rittenhouse Square, the store devotes about a quarter of its stock to architecture and related fields. Its selection of new titles attracts students from the University of Pennsylvania and Temple University as well as design professionals. Joseph Fox Bookshop, 1724 Sansom Street, Philadelphia, PA 19103 (215) 563-4184, (215) 567-7714 fax; foxbooks@aol.com, www.bookweb.org/bookstore/foxbooks

#### SAN FRANCISCO

William Stout's shop is arguably the best architectural bookstore in the country, an unparalleled source for new, rare, and out-ofprint titles in a setting that invites both leisurely browsing and full-throttle shopping sprees. Founded in 1974 by Stout, who began selling books out of his apartment, and also maintained an architectural practice until a few years ago. The store now occupies the ground and lower levels of a handsome 1840s bank building in the Jackson Square district and offers about 30,000 new titles, dozens of obscure catalogs and journals, roughly 4,000 out-of-print titles, as well as a formidable selection of foreign books. "Most of the other bookstores aren't so interested in books in foreign languages," says Stout. "But, for us, language isn't a barrier." More than 200 libraries in the U.S. and abroad are among Stout's customers, as are students, scholars, visitors, and local professionals. His recent publishing venture, William Stout Publishing, has made important works available, including a reprint of California historian David Gebhard's 1971 publication *Schindler* (1997); Stout will soon release new monographs on leading Bay Area architects.

William Stout Architectural Books, 804 Montgomery Street, San Francisco, CA 94133; (415) 391-6757, (415) 989-2341 fax stoutbooks@earthlink.com

#### SEATTLE

Peter Miller Books was founded more than 20 years ago and is the only bookstore in Seattle to specialize in architecture and design. Located on the ground floor of a 12-story, 1930s terra-cotta building, the shop offers about 7,000 titles including approximately 1,200 out-of-print and rare books. Miller carries a modest selection of journals; "you have to be in a more metropolitan area than Seattle to really carry a lot of journals," he says. Catering mostly to a professional clientele, Miller's handsome store also offers a small selection of high-end design objects and furniture, including a Vico Magistretti chair and an Antonio Citterio drafting table. *Peter Miller Books, 1930 First Avenue, Seattle, WA 98101 (206) 441-4114, (206) 441-1501 fax; pmbooks@msn.com, www.petermiller.com* 

#### WASHINGTON, D.C.

**Franz Bader** opened a general bookstore in Washington, D.C., in 1954 and began to specialize in art, architecture, and design in the early 1960s. The current shop, owned by Sabine Yanul, is located in D.C.'s Foggy Bottom neighborhood, near George Washington University. "We carry MIT Press as well as other major American publishers," Yanul reports, "and as much as we can get from abroad." Of about 8,500 titles, 2,000 are related to architecture and design. Academic, trade, and professional journals are available as well.

Franz Bader, 1911 I Street, N.W., Washington, D.C. 20006 (202)337-5440, (202) 337-5441 fax

Henry Urbach writes (and reads) about architecture and design in New York City.

Architect and Form Zero owner Andrew Liang designed his store's interior, which sits in Frank Gehry's Edgemar complex. Maple-veneered, plywood frames (seen here from behind) stack on open-backed redwood units with tubular steel and glass shelves.



## on the boards



### Miami Project Portfolio Spillis Candella & Partners

Miami enjoys a distinct architectural identity—call it the lighter side of Modernism. But don't call it empty-headed: From Miami Beach's Art Deco confections to Arquitectonica's graphic big-'80s style, local architects have managed to reconcile their city's playful verve with a serious Modern agenda. Now, three projects by local firm Spillis Candela & Partners—a mixed-use complex, transit station, and visitor center—promise to update the city's exuberant Modernism. Design Principal Michael Kerwin tips his hat to such established Miami masters as Morris Lapidus: "I admire him for offering visual pleasure without being selfindulgent," Kerwin admits.

In preliminary designs for a mixed-use complex in the Miami suburb of Kendall, scheduled to open in late 2000, Kerwin breaks down different programmatic elements into discrete forms: A 29story, 360-unit apartment tower (Miami's first residential high-rise away from the waterfront, according to the architect) caps a 10story, 225,000-square-foot office block. At the foot of these towers, a courtyard and an inverted cone that houses shops, a nightclub, and the lobby of a 20-screen movie theater punctuate a two-story, 175,000-square-foot shopping center and a garage. To animate the street in what Kerwin describes as "a bleak 'edge city' context of parking lots and car dealerships," the architect subverts standard retail typology: Anchor stores open up to the street with glass facades. To reconcile this extensive glazing to the city's ubiquitous masonry facades, tinted glass panes imitate stacked stone.

For the 45,000-square-foot Greater Miami Visitor and Aviation Center at Watson Island, Kerwin created a symbol for the





city with a highly complex program and client group. The building includes offices and meeting rooms for the Miami Sports and Exhibition Authority and the Convention and Visitors Bureau; a terminal for seaplane and helicopter services; U.S. Customs Service facilities; and exhibition space. The architect responded to this mandate—and the building's prominent island location along the main causeway between downtown and Miami Beach with a bold, retro approach to form and finishes.

Kerwin dramatically cantilevers the Center's upper floor beyond a recessed lower level. He further enlivens this direct gesture with gold-tinted glass around the base and blue and green glass over the projecting slab, in varying levels of reflectivity. A canopy of white fiberglass fabric stretched over galvanized steel tubes,



which the architect calls "the cloud" because of its amorphous profile, shades a roof deck and central courtyard. A precastconcrete pylon, rising through the center of the court, supports a spiral stair that connects the three levels. A breezeway that bisects the building's base frames a view of downtown Miami. The project will open in late 1999.

Kerwin also isn't afraid to tone things down. In contrast to the funky visitor center, the new Deerfield Beach Tri-County commuter rail station, located in a distant suburb and scheduled to open in 2000 adjacent to a 1926 depot, takes a quieter formal approach. Kerwin locates stairs, elevators, and canopies for north- and southbound trains on either side of the tracks, linking them with an open-air bridge.

Rather than replicate masonry in another material, Kerwin employs the real thing. Thin blades of concrete wrap the twin cylindrical stair towers; an oculus caps their saucer-shaped ceilings. Narrow bands of locally quarried Keystone clad the two rectilinear elevator shafts. Canted steel supports frame the rippled, cast-in-place concrete canopies that shelter waiting commuters. Steel also appears in the giant box-truss bridge that spans the tracks. Kerwin likens this repetition of platonic forms to a mantra, dramatizing what he calls the "mundane life experience" of commuting to work. *Ned Cramer* 

Mixed-use complex (opposite) integrates apartment tower, office block, garage, retail, and other elements into geometric composition. Visitor and Aviation Center at Watson Island (above) recalls eclectic resort architecture of city's past; canopied roof deck offers views of downtown and harbor. Deerfield Beach rail station's cylindrical stairs, elevator shafts, and canopies (left) mirror each other across train tracks.

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## interview

Ray Kappe and Neil Denari discuss the past and future of the Southern California Institute of Architecture.



# Extending SCI-Arc's Legacy

In 1972, architect and educator Ray Kappe founded the Southern California Institute of Architecture (SCI-Arc) with a disgruntled group of faculty and students from California State Polytechnic University in Pomona (Cal Poly). Following this act of protest, a pack of talented young architects and critics—including Thom Mayne, Eric Owen Moss, Robert Mangurian, and Kappe's successor Michael Rotondi (who served as director from 1987-1997) surprised academics and professionals with their radical approaches to design and urbanism. Today, recently-appointed Director Neil Denari attempts to reconcile Kappe's iconoclastic intentions with his own inclusivist vision for the school's future.

#### ARCHITECTURE: Ray, why did you found SCI-Arc?

**RAY KAPPE:** The dean at Cal Poly created a schism between landscape, planning, and architecture. I told him he was leading the program in a bad direction, and he told me to resign. The following year, he was let go. After that experience, we felt we could pull it off without administration and it would be much more experimental.

### SCI-Arc has maintained an avant-garde reputation for a long time. Was that part of your initial intention?

**RK**: No. The acronym, SCI-Arc, talked about science and architecture. It was pragmatic. I think the players grew into the avant-garde aspect—Thom [Mayne] and Eric [Owen Moss] certainly did. By 1974 or 1975, their publications and lectures led to a feeling that SCI-Arc was different—the Morphosis syndrome. **NEIL DENARI**: It was a volatile mix of people and egos—Thom, Michael [Rotondi], and Robert [Mangurian]. I don't think they were trying to usurp Ray, who had tremendous differences with the school's Postmodern strain at the time.

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Kappe's 1996 Pregerson house (top) and Denari's 1997 Vertical Smoothouse (above), both in Los Angeles.

#### Anybody in particular?

RK: There was a division of camps. For a while, Mayne and Moss were very pro-Rossi and pro-Graves. I was outraged. ND: If you talk to those guys now, they might tell a different story. By 1984, Morphosis returned to stronger, more innovative ideas, and the school recovered quickly. By the time Mike came in, the school was simply an icon of that whole production. That really created the school's image as being avant-garde.

### If you don't stay at the forefront, what happens to SCI-Arc's reputation?

**ND:** In light of the fact that SCI-Arc is now basically institutionalized—it's accredited and so forth—you can arguably say that some of the freedom Ray is talking about is gone. I want to bring the school more aggressively toward particular issues, whether it's Los Angeles's politics or agents previously understood to be Sci-Arc's enemies: entertainment, money. I don't see it as a sell-out. It's progress.

#### Will you engage these enemies critically or will you welcome them in?

ND: Both. But there are lines I draw about ethics and integrity. I'm not thinking, "What would I do to double-cross the school's origins?" Here I am, the third director, the one not cut from the SCI-Arc cloth, yet I know what the place is about. I've got historical and critical distance.

#### How do you feel about that, Ray?

**RK**: He'll do it his own way. The emphasis though is on what I believe in. Things cycle.

#### Do you talk about cycles because something needs mending at SCI-Arc? ND: I wouldn't say that once there was a perfectly running machine and now it's broken. That invites the idea that SCI-Arc could and should only be put together in one particular way. Let's just say that in Michael's time, the school went in many directions. During the last five years, the school has generated multiple viewpoints, not always with the belief that architecture



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is the best medium in which to work. There has been a lot of doubt about architecture being a catalyst for social change or even beauty. Architecture *is* the best medium. We teach our students about it through design, spacemaking, urban design, and landscape.

We have great architects producing great work, but the curriculum has not produced coordinated volatility. I'm not saying that the school is one big conflict, but there is a way to coordinate these pathways to produce a challenging education. And there are other ideas and people that I'm trying to bring to the school.

#### Such as?

**ND**: We have two positions open for the heads of the graduate and undergraduate programs. I consider that to be a privilege other new directors might not have.

There also needs to be a greater responsibility on the faculty's part to be digitally literate and mindful of how technology is changing education. It's not about celebrating the disappearance of architecture because it's too weak in the face of speedier and more vital technologies.

We've got a lot of politics: We've got issues of race, gender. I believe we could go into an incredibly productive time studying issues of architecture, filtered strongly through our contemporary culture.

Several schools want to view architecture through a cultural prism. How do you intend to distinguish your program? ND: Well, that remains to be seen. The faculty is connected to the city; we're trying to form an urban design program.

A lot of schools have moved towards SCI-Arc in the last five to 10 years, repositioning themselves toward urban, socially-based architectural agendas. RK: If people are following us, that's nice. Who knows what's next, whether the changes Neil's talking about are right. If other schools are more forceful with what they're doing, it'll change. It's always hard to tell how many years schools can maintain their position.



Formal study by student Clancy Pearson from 1998 studio run by Tim Durfee and Tom Buresh.

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ND: Almost every school, if they're worth their salt, is out there wondering, "What do we do now?" I think SCI-Arc can maintain its uniqueness by utilizing Los Angeles as a laboratory, and not attempting to generate some novel formal language. Maybe UCLA is searching for that.

#### But if anybody's ever levelled a criticism at SCI-Arc, it's that the school is involved in a superficial search for the latest form.

ND: That hits a nerve. SCI-Arc's been unable to dispel the image that novelty of form is our main agenda. There are people here who are about form-making. There are also some strong Functionalists they'd be famous in Switzerland. I also talk about form-making, but I'm not interested in returning the school to a time when it could have been perceived as having a vacuous agenda: Just make it novel. Nor do I want to avoid form completely. I believe there's still room for development within the ideas of space and geometry. But they've got to be processed through issues of use and culture and so forth. But you admit that this dogs the school. ND: The school's detractors play it up, but I don't think potential students say, "I'm not going to SCI-Arc because it's empty."

How do you educate students in nonarchitectural subjects, when they're not in a full university environment? RK: Early on, our student body came mostly from community colleges. Practically no students came directly from high school. I would let in a few exceptions because architecture was all they were interested in. We always felt we had enough of other subjects: People would come in and teach seminars in economics, sociology, and English. We had writing classes as well, but that was not primary. Now we have more graduate students than undergrads. ND: We have a little more than 200 graduate students and probably 190 undergraduates.

And students fresh out of high school? ND: That's a virtually insolvable issue for us, so we try not to focus on it. The school isn't set up for a conventional undergraduate experience: We don't have a campus; we don't have a dormitory. We try, in our undergraduate curriculum, to teach in a way that draws out general education. We teach physics, even quantum mechanics. We teach poetry and philosophy to take on the same perspective that a university would in providing a liberal arts education. But at the same time, it's a Bachelor of Architecture degree.

Do you think that the success of SCI-Arc has contributed to the demise of the University of Southern California as a power among architectural schools? RK: The schools are different. You get into the tenure thing: A lot of people there, up at the top levels, have not moved out yet and the school stays static. ND: SCI-Arc generates distance by virtue of its own vitality, by the fact that we don't have tenure. We find ourselves constantly moving, trying to outrun our own history. In some sense, I think any powerful school needs to do that.

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### protest



#### HUD pulls the color—and life—from a Martha Schwartz design at its Washington, D.C. headquarters.

Architecture hath no enemy like a politician, especially adventurous architecture, especially in Washington, where what gets built stands as a lasting metaphor for how power moves. Ask landscape architect Martha Schwartz: Everything was humming along nicely with her design for the plaza in front of the U.S. Department of Housing and Urban Development (HUD) headquarters—until one politician's ambitions almost put an end to it.

When Architecture first published Schwartz's scheme (January 1996, pages 94-95), it was shockingly fun, especially given the locale—Southwest Washington's severe, 1960s federal ghetto. The U.S. General Services Administration (GSA) hired Schwartz in 1994 to dress up the front porch of Marcel Breuer's Brutalist HUD building. The installation completed by the GSA in June is much like Schwartz's design, except for one critical difference: In her original proposal, Schwartz's seven glowing, circular canopies were radiant with bright, juicy colors—red, orange, yellow, and violet.

A Martha Schwartz without color is like bleaching a Luis Barragán or tie-dyeing a Richard Meier. Former HUD Secretary Henry Cisneros understood Schwartz's Pop Art humor and embraced the project when it was unveiled. But Cisneros left HUD at the beginning of the second Clinton Administration and was replaced by political climber Andrew Cuomo, who didn't cotton to Schwartz's vibrant design. "He had different ideas about how the plaza should look," Schwartz says carefully.

Cuomo thought Schwartz's design might detract from the department's mission and make HUD look frivolous on his watch even though it only cost \$1.3 million. As construction was getting under way last spring, Cuomo was hell-bent on eliminating the canopies from the design. Schwartz fought back, calling on her powerful ally J. Carter Brown, chairman of the Commission on Fine Arts, who had heartily helped approve the plaza's design. Schwartz had to make a crucial eleventh-hour compromise to save her project: She suggested that the colors, her signature element, come out, and that the canopies be rendered in white.

The plaza's design is arrestingly elegant: soft, white disks seem to float over the plaza, offset by circular planters of grass so green it looks painted. But it's not the genuine Schwartz article. Cuomo arrogantly used his power as secretary to subvert a painstakingly public design process—and remember, this is the fellow who's in charge of federal policy in our cities. The secretary, as his public relations people are so eager to point out, has a résumé of noble works from his career in nonprofit affordable housing. But he picked this battle poorly, leaving his mark on HUD in the most trifling, craven way. *Bradford McKee* 

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### Architecture and sculpture have never shared such close formal

and conceptual kinship, and artists and architects have never had so much to say to each other. We talk about the two often and interchangeably, turning the words architecture and sculpture into adjectives that qualify each other. We call a building sculptural when its forms are bold, free from convention, beyond ordinary; we describe a work of art as architectural when we intend to emphasize its spatial and rational qualities.

Grand gestures are not the measuring stick of artistic prowess. A building need not show Baroque bravado to be regarded as sculptural: Even the quietest, most restrained piece of architecture can exude the tranquil energy of a Minimalist artwork.

James Turrell's CATSO, RED (1967) at the Mattress Factory



### Distinctions between architecture and contemporary sculpture grow





increasingly blurred.

### Notes On Space By Mark Robbins

### "The biggest break in the history of sculpture in the twentieth century occurred when the pedestal

Since the 1960s, artists have challenged the traditional relationship between art and architecture: that of an object placed as pendant to a building or housed within it. Boundaries separating the two fields have been described and redrawn, with proprietary claims made on both sides regarding derivation and influence.

The work of artists often linked with architecture varies. Some, like Ann Hamilton and Dennis Adams, create environments that recollect personal or political identity. Others, like Gordon Matta-Clark (this issue, page 17) and Rachel Whiteread, operate directly on architecture, hewing it as a sculptural medium. Such artists as James Turrell, Richard Serra, Donald Judd, Mary Miss, Sol LeWitt, and Robert Irwin could also be defined as more abstract or formal.

Architects often find an affinity with the Minimalist vocabulary of this last group; their use of simple, reduced forms is familiar to those trained in the canon of high Modernism: Le Corbusier's "...masterly, correct, and magnificent play of masses brought together in light." Their work is precise, with a reduced material palette and lack of ornamentation. It emphasizes space, light, and volume, and freely manipulates compositional elements. It's not surprising that architects see elements of their own formal training in the work of these sculptors, but with an apparent release from program or client.

In many of these artworks the space itself becomes the project. In a 1980 land-

mark piece in Venice, California, Robert Irwin took an empty storefront, adjusted its skylights, whitewashed its walls, and replaced its front facade with a white scrim. The viewer saw the quality of deep space change through the day like the color of a lake, depending on lighting conditions. In other projects, Irwin manipulates the light to achieve subtle shifts in tints or almost imperceptibly cants the angle of a wall. These pieces result from an intense scrutiny of the creation and perception of space: Surfaces are to be seen, and the reduction of extraneous elements suggests a way of looking at and constructing spaces that can make standard buildings seem coarse by comparison.

With *Prologue: x 18<sup>3</sup>*, the first of a two-part, site-specific exhibition staged earlier this year at the Dia Center for the Arts in New York City, Irwin created a grid of 18 rooms from tightly stretched, translucent scrim. Doorways connect the rooms; the outermost fabric walls run parallel to the gallery walls. The light from the gallery's existing windows casts a soft glow, boosted by blue-tinged fluorescent tubes. The space becomes palpable atmosphere, almost a blur. The high-ceilinged, rectilinear white rooms are almost purely described by light. New York City designer Craig Konyk referred to the project as "architects' heaven."

For a concurrent exhibition at Dia, Richard Serra installed his *Torqued Ellipses* (1977)—three almost-Baroque enclosures comprising complex-curved arcs of plate steel, 2 inches thick and 16 feet high. The viewer navigates in half-light in and around the volumes, through



compressed and released space. The voids between the forms have an almost urban density, and can be imagined from above like a Nolli map. The viewer's relationship with the complex curves is dynamic and hard to grasp, like a walk at night in an unfamiliar city. Serra is interested in geometric and spatial experiments, like a scientist or inventor, or a Renaissance architect working on the problem of the corner. Of the *Torqued Ellipses*, he says: "I started with the void, that is, the space, from the inside out, not the outside in, to find the skin."

Dia Center for the Arts presented two installations this summer: Robert Irwin's PROLOGUE: X 18<sup>3</sup> (previous pages, top) and Richard Serra's TORQUED ELLIPSES (previous pages, bottom). Sculptor James Turrell created DANAË (1983, above) for permanent collection of Pittsburgh's Mattress Factory contemporary art museum.

### was removed" — Richard Serra

Serra's spatial inventiveness—the relation between sculptural skin and internal volumes—most immediately recalls architect Frank Gehry's work and is apparent in the great number of models from which they both work. The model is the generator for achieving their non-standard forms. For Serra, this means creating a low-tech modeling device rigged from tricycle parts that mimicks the computerassisted modeling that has made Gehry's greatest designs possible. (Serra even called upon Gehry's engineer to confer during the conceptual stages of *Torqued Ellipses*.)

It's interesting in this light to see Serra's curvilinear corridor piece, *Snake*—as well as works by Judd—commissioned for the vast sculptural spaces of the Guggenheim Museum Bilbao. Serra's desire for museum space to be "neutral, open, and flexible" coexists with his suggestion that "architects who design museums need to ... understand that there are people working today whose art ... has nothing to do with rectilinear structures."

In fact, architects like Gehry are moving even further from the orthagonal: Sculptural architecture, whether plastic or Minimalist, has a healthy presence in current practice, as evidenced by the work of such architects as Eric Owen Moss (Architecture, July 1997, pages 80-89), Coop Himmelblau (this issue, pages 52-61), and Herzog and De Meuron (Architecture, June 1998, pages 122-127). These designers exhibit both minimal and figurative tendencies. In Stanley Saitowitz's work, for example, one sees both approaches. The parabolic supports for his Transvaal house respond to the landscape, material and cultural vernaculars, and structural necessity. His New England Holocaust Memorial in Boston (Architecture, December 1995, page 23)-devoid of function or habitation in the expected sense, but wholly about experience and memory—uses transparent geometric forms recalling the work of Judd or Irwin. And his installation "Reading Room" at the Wexner Center in Columbus, Ohio, for the recent Fabrications exhibition (Architecture, March 1998, pages 44-45) is rendered in almost invisible acrylic planes that support books and viewers. The seats and shelves set off a charged series of reflections. This transparency, and the spatial ambiguity it engenders, recalls a long Modernist tradition, while resembling sculptor Dan Graham's reflective glass pavilions.

The point is not whether architects or artists first achieved a certain purity in the use of form, or who manipulates space in the most essential way. The formal and personal invention found in sculpture has always been a component of great architecture ranging from Erich Mendelsohn's Expressionist Einstein Tower (1921) in Potsdam, Germany, to Ludwig Mies van der Rohe's Minimal Barcelona Pavilion (1929). The ability to transcend functional sufficiency, while functioning, is an achievable goal for architects.

Much of this exploration, however, occurs at the edge of standard practice. And indeed, many architects view the idea that architecture

explores architectural concepts, social identity, or formal properties as being beyond the purview of the discipline, as "against nature." Even when aligned with "real" buildings, architecture's aspiration to raise questions about itself and its society is sometimes perceived as hermetic or self-indulgent.

Richard Serra asserts a strict separation between architecture and art. "To deprive art of its uselessness is to make it other than art," he maintains: "Architecture serves needs which are specifically functional and useful. Therefore, architecture as a work of art is a contradiction in terms." Yet certain architects design buildings that both respond to function and provoke or

destabilize. For Peter Eisenman, "the challenge is to overcome the limitations inherent in piling parts together according to use and to produce an internal necessity that is outside of use." These statements represent both ends of the spectrum between art and architecture: the tension between what artists feel is the province of architecture and vice versa. Should we judge Donald Judd's Marfa, Texas, compound (this issue, pages 2-3), for instance, as architecture? Should we question the status of Gehry's fish or Diller + Scofidio's installations as art?

The criticism volleyed at Serra's *Tilted Arc* (1981) before its inauspicious removal in 1989 from 26 Federal Plaza in New York City dealt with its function; art criticized on the level of use. The press and the United States General Services Administration reviled it for disrupting life on the plaza, a fairly barren affair to begin with. Steel plates sliced through the space and forced people to make a decision about which path to take. The obstacle made the path and the sequence more strongly felt and recognized. This is not dissimilar from the tilted floors in Rem Koolhaas's Kunsthalle (1993) or low-set windows on the office level at Eisenman's Wexner Center (1989), which allow a view out only when seated: Non-standard practices heighten one's perception of the surrounding space. I remember seeing the remains of Tilted Arc after the blowtorches: A raised linear nub of the former steel wall with red spray paint marking the cut through the prefabricated Belgian block swirls. The project has now been replaced with landscape architect Martha Schwartz's softer, less threatening curvilinear benches and plantings. They are used, I assume, with unreflective ease.

Mark Robbins is an architect and artist, the curator of architecture at the Wexner Center, and teaches at the Knowlton School of Architecture at Ohio State University.







Cinema Palace is an amalgam of concrete and glass: Cantilevered concrete box contains eight movie theaters; glazed multistory lobby opens to triangular site's west side (previous pages). Metal grille (above) screens exit stair; billboards advertise featured movies to autos and trams. View of west facade (above right) shows neighboring housing superblock (background). Glass-enclosed lobby's array of stairs, terraces, and concrete-sheathed elevator (facing page) glow at night.

Few urban ensembles are more stupefying than Dresden's militaristic parade of Stalinist structures on the superblock between the city's train station and the Elbe River; all architectural individuality is suppressed in favor of marching orders for a collective identity. Even the post-Communist corporate structures inserted into the overscaled scheme fail to alleviate the crushing homogeneity: Though crammed with shops and merchandise, the gridded facades and cellular organization of the new office buildings and stores bond with the larger ensemble, solidifying the overall urban frigidity.

Round a corner between Pragerstraße and St. Petersburgerstraße, however, and the city suddenly comes to life: A new cineplex by Coop Himmelblau electrifies the soporific environment. In the overlooked "backyard" of an enormous apartment block on an awkward wedge of land, a precarious glass crystal tethers to a cantilevered concrete block. The building energizes the surrounding space, salting surprise into an otherwise flaccid ensemble. The Stalinist city's intolerance to difference and individuality is antithetical to a firm whose name means Blue Sky Cooperative. The principals—Wolf Prix and Helmut Swiczinsky—came of professional age in the 1960s, looking for architecture that would break conventions and forge freedom. They torched drawings with cigarette lighters and completed others with their eyes closed to effect a nonlinear, "open" thought process. Sometimes they invented their own commissions and found architecture in urban performance pieces and sculptural installations. Most of Coop Himmelblau's jobs were boutique projects for indulgent clients: private houses, museums, shops. Over the last five years, however, the pair—partners for 30 years this July — introduced their ideas into less protected arenas.

The challenge they faced in Dresden was to apply their philosophy in the commercial marketplace to an inhospitable urban environment. The Euclidean geometry of Communist-era planners was incompatible with the irregular site, which comprises an intrusive







North-south section (B-B)



Shadows cast by grille and stairs (above) mitigate bulk of concrete structure which overlooks busy road and freestanding buildings of St. Petersburgerstraße (facing page). Theater's irregular massing optimizes awkward site; glazed lobby opens to plaza and nearby buildings.

underground parking ramp, an adjacent tramway, and a diagonal avenue radiating from the central train station. The client, UFA-Theater AG, commissioned the architect to build eight theaters at 11,000 deutsche marks (about \$6,200) per seat—the going rate in the client's more conventional projects. The 2,400-seat building also had to link the existing core with an adjacent section of the city slated for high-density development.

The architects' first parti called for theaters suspended in different directions within an open structural frame. With no central projection booth, the lines of sight in the theater boxes could be independent of each other: There was no reason for auditoriums to align in the linear fashion of a typical multiplex. "Floating in space without gravity has made perspective an obsolete issue," says Prix. "Controlled centralized space is over."

The earlier parti was not financially feasible, but the idea migrated to the built project, where an asymmetrical polyhedron houses stalagmites that support a vertical topography of stairs, landings and terraces. The prismatic glass enclosure spreads like an angular emanation from an imposing five-story concrete mass, in which the architects packed the eight variously sized theaters. Concession stands and ticket counters are tucked beneath the sloping floors of the theaters. Coop Himmelblau paid for their Piranesian space and its otherworldly crystal with the efficiency afforded by the concrete stack of theaters and a palette of industrial materials.

Passersby who round the corner to the plaza encounter a radical counterpart to conventional glass pavilions. (Dresden's nearby Baroque Zwinger Palace is an etymological relative.) Like many of the reconstructed churches and government buildings in historic Dresden, Cinema Palace is a charismatic object in a square that it defines and shapes. Its glass and concrete volumes cantilever over pathways across the tram tracks linking the areas under development. Within the Cinema's crystalline space—which requires no ticket or entrance fee—stairs, terraces, and elevators serve as a vertical piazza for the theaters, and also as an informal four-story



salon for Dresdeners, who gather to socialize over snacks purchased in the theater commissaries.

The structure is a steel frame tied to a concrete box and enclosed by a glass skin; expanses of computer-driven louvers allow the volume to breathe. The irregular space housed within is an environmental machine calculated to be no less than two degrees cooler than the hottest summer day, and at least two degrees warmer than the coldest temperature in winter—the optimal performance for unmechanized passive solar technology. Daylight hits the irregular interior forms in distorted patterns that shift with the sun. The sky can be seen through layers of blinds and mullions.

Not since the Pompidou Center in Paris has such a compelling building transformed and energized its urban environs, defining a coherent space while creating important pedestrian linkages. The building's unexpected exterior and interior, like Frank Lloyd Wright's Guggenheim Museum, draws even those not interested in seeing a show. People from all walks of life gravitate to the new precinct: Hausfrauen in floral print dresses and sensible shoes, couples in custom convertible VW's, taxi drivers on break, adolescents with green hair, kids on roller blades. Unlike the stone monuments in historic Dresden, this is a monument for mass audiences assembled for a mass medium.

They are drawn, of course, by the sensation of the new. The quality of the architecture, however, transcends mere novelty. The rising, leaning form, neither wall nor roof, seems to respond to an anti-gravitational force that creates an altered physical state. A few zooming "walls" beside the entrance cause a vertiginous sensation in the pit of the stomach. The forms shoot off and the eyes convince the body it is in the throes of a white-knuckle experience: The tilting shapes engage the senses.

This palpable thrill is achieved by a combination of artistry, engineering, and shrewdness; the architects matched vision with impressive skill. Each plane of the irregular glass polyhedron is, in fact, regular, though they all meet at nonorthogonal angles. Although the



concrete forms are imposing on the ground floor, they shed weight as they rise into the glassy heights. The bent concrete shapes within the folded glass planes form parallactic relationships. "It's a built video clip," observes Prix, "because every step changes configurations in the space sculpture." No single privileged point of view prevails as the interior shifts and revolves during a climbing promenade.

These shifting relationships also occur outside in a temporal dimension. At night, interior lights dissolve the glass and highlight the Cinema's looming concrete forms. The long facade on the tramway side, covered by day with a metal grille that supports movie billboards, becomes a scrim when backlit. "It's a Janus facade," says Prix. "From every point of view it looks different."

Prix and Swiczinsky have always devised partis that were two-part composites of the solid and vaporous. Their Open House (1983) typified the strategy with an opaque core serving a large living area filled with explosive lines. The Dresden cineplex follows this pattern, though here the vaporous explosion is less fragmented and more volumetric. The form creates, like a site-specific whirlwind, an interior and exterior turbulence that draws in the space around it: The building generates its own force field.

People mill about this theater, attracted by curiosity and sensing that their historic city, carpet-bombed during the war, has acquired a contemporary monument that complements and updates its old, reconstructed counterparts. Many snap pictures or shoot with camcorders. They are not abandoning reality for the illusion of a movie; Coop Himmelblau trumped the movies with a cinematic work that brings imagination into everyday life. Rather than coming to the building to see a film, people come to the building to film it.



Topmost walkway (above) traverses lobby 60 feet above street level. Wire-wrapped seating area (following pages, left) flanks walkway at mid-lobby; computer-controlled louvers regulate interior temperature. Elevator tower (following pages, right), accessed by fingerlike walkways, is lobby's sculptural centerpiece.

### UFA-CINEMA CENTER, DRESDEN, GERMANY

lobby
tickets
restaurant
storage
theater
upper lobby

**CLIENT:** UFA-Theater **ARCHITECT:** Coop Himmelblau, Vienna, Austria—Wolf D. Prix, Helmut Swiczinsky (principals), Tom Wiscombe (design architect), Verena Perius (project architect), Andreas Mieling, Florian Pfeifer, Andreas Schaller, Alexander Seitlinger, Andreas Westhausser, Susanne Zottl (project team) **ENGINEERS:** Bollinger + Grohmann (structural); Canzler Engineering (mechanical, electrical) **GENERAL CONTRACTORS:** Manfred Pagitz Metallbau; Hesse; Elektro Röwer **CONSULTANTS:** Intermetric (surveying); LIDAC; Philips (lighting); Sager Fabrications (concrete); Otis (elevators) **COST:** \$18 million PHOTOGRAPHER: Ralph Richter, Architekturphoto, except as noted





## Second Position



Antoine Predock pairs his enigmatic Forum Theater at the University of California, San Diego, with a new dance studio. By Aaron Betsky

**To dance,** all the architecture you need is a big box: a tall, wide space with well-sprung floors, good lighting, and no distractions for the body in motion. Start with these requirements, a tight budget, and a site where nobody wanted a building, and you begin to understand the restrictions Antoine Predock faced in designing the recently completed Dance Studio at the University of California, San Diego (UCSD). The resultant building may not soar, but certainly posits itself in a manner wholly becoming of a member of a troupe of decent and even outstanding university arts buildings.

Margaret Marshall started the dance program at UCSD in 1974. Twenty years later, she was promised her own building in a eucalyptus grove next to the Weiss Forum, a theater designed by Predock in 1991. Despite Marshall's concerns about the cost and functionality of the Weiss Forum, a university selection committee chose Predock to design the new building over local architects Rob Wellington Quigley, Adele Naudé Santos, and Manuel Ortiz.

After one meeting, however, Marshall was a convert. Predock, who was once married to a



Site plan 120'/36m C

and Dance Studio's arriving patrons

wall that faces mesa (right) revea

1

Weiss Forum's mirrored wall (left)

campus to north and

Sweeping curve of empty

(site

west to glazed

9

Forum

leads

Vall

lobby (facing page)

dancer and helped found a modern dance company in Albuquerque, New Mexico, "understood what we needed," she maintains. The architect arranged three dance studios along a curving path that connects the main campus north of the site to the Weiss Forum complex to the southwest. A curved wall that leans out toward the southeastern edge of the mesa on which the campus sits defines the arc. It also strings together the discrete dance venues. A fourth box, which contains locker rooms, anchors the composition to the west. The complex comprises approximately 14,000 square feet and stuck to its \$2.4 million budget.

The detailing of the curved wall creates the studio's coherence and poise. Predock punctuates it with a rhythm of narrow, oblique slots, slits, and openings that provide the "visual eavesdropping" the architect felt would meld dance into the larger university community while preventing the "peek-a-boo" effect Marshall feared. As the curved wall moves into the building, it becomes a corridor flanked by glass that marches past an enfilade of steel columns. This glazing then folds away from the curve to enclose a lobby, the locker room, and a courtyard. Predock suggests the dark, reflective set of planes recall the Weiss Forum's curving mirror facade, but this time it "folds in around you."

While the wall cants out and up to welcome students from the campus, it disappears into the building toward the rear. There, an overhanging, black rubber-swathed concrete eave or "prow" signals the entrance to the third studio "like a marquee." This studio will also act as a performance space, drawing visitors from the Weiss Forum. Though this marquee is a strong sculptural gesture, it is but one of the rear entrances, creating some confusion about how to enter the building. In the western part of the Dance Studio, where locker rooms face the "working courtyard" and the Forum's loading docks, the facades seem complicated and overbearing, mixing too many elements.

"I wanted a self-effacing building," Predock recalls of his efforts to fit the building into its site. Though he has not quite succeeded in hiding the necessary bulk of the three large boxes, he does camouflage them. A stucco "the color of the underside of a eucalyptus leaf" clads the simple forms beyond the curving wall.

Despite its minor shortcomings, the Dance Studio serves its purpose well. "The students just soared when they got in here," claims Marshall.





North-south section (B-B)





They use virtually every inch of the building, gathering along the curved wall to stretch and bend, wedging their legs into its slots. They dance in the small courtyard and run up the walls. They respond to the freedom of the loftlike spaces, their resilient sprung-rubber floors, flexible lighting grids, and natural ventilation.

"I didn't want to make a metaphor for dance," explains Predock, "but I did want to choreograph the forms." The poise of this strategy is perhaps most evident from a small bluff southwest of the Dance Studio. There, artist William Wegman, famous for his photographs of costumed dogs, installed an artwork called *Panorama Drawing* (1987). An etched plate shows the skyline of San Diego's sprawl as it then appeared from the bluff. A telescope nearby lets you survey how that same scene has changed. Next to this wry vantage point, the Dance Studio fans out, Aaltolike from the mesa, posing its choreography of simple certainty against the ticky-tacky confusion of the suburban miasma below.

### DANCE STUDIO,

UNIVERSITY OF CALIFORNIA, SAN DIEGO, LA JOLLA, CALIFORNIA CLIENT: University of California, San Diego, Office of Facilities Design & Construction—John Sturla (project manager) ARCHITECT: Antoine Predock Architect, Albuquerque, New Mexico—Antoine Predock (principal-in-charge), Doug Friend (senior associate-in-charge), Michele Cohen, W. Anthony Evanko, Cathy C. Hahn, R. Lawrence Mead, Robert F. McElheney, George Newlands, Kira Sowanick (project team) LANDSCAPE ARCHITECT: Joni L. Janecki & Associates ENGINEERS: Paragon Structural Design (structural); Merrick + Associates (mechanical); Van Buuren, Kimper Engineering (electrical); Robert Bein, William Frost & Associates (civil) CONSULTANTS: McKay Conant Brook (acoustics); Balis & Company (cost estimating); Kenneth E. Guthrie (specifications) GENERAL CONTRACTOR: Kvaas Construction Company COST: \$2.4 million PHOTOGRAPHER: Hewitt/Garrison Architectural Photography, except as noted.



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Plan

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\_\_\_ 25'/7.5m ⊖

LA

# Port Authority

Until recently, developers with a propensity for undistinguished architecture designed most of the large-scale projects in Japan. The few buildings that have risen above this indiscrimination generally have high-profile functions, such as a communityoriented program or ties to fashion or the arts. Dragon Promenade, designed by Los Angeles-based RoTo Architects, did not initially have a public role. It is a warehouse, part of a large urban redevelopment effort launched by the city of Nagasaki in 1987. Utilizing national funds available for recreational development, the city set out to create a waterfront of parks, shopping, and an upgraded ferry terminal meant to promote local tourism. Officials envisioned two In Nagasaki's harbor, RoTo Architects warehouses with leased space to provide economic support,

elevates a prosaic industrial program into an urban but this building type fit uneasily within the project mix, both in terms of use and esthetics. landmark, By Dana Buntrock

Nagasaki modeled its public works program on a plan implemented by nearby Kumamoto. There, architects Hajime Yatsuka and Arata Isozaki worked with Governor Morihiro Hosokawa of Kumamoto prefecture (later prime minister of Japan) to ensure that all government-funded commissions went to high-profile architects-some of them foreignregardless of size or program. The resultant provocative designs stood in contrast to the normally bland fare of local civic architecture.

Hideto Hori'ike, a promising architect and coordinator of public works for Nagasaki, commissioned Atsushi Kitagawara, Shin Takamatsu, and RoTo to design Nagasaki's new waterfront buildings. Dragor Promenade opened to the public in March. In spite of its gargantuan size-roughly 700 feet long, 80 feet wide, and 100 feet tall at its highest point-this was not an enviable project. The developer's architects had already completed a basic design when the city hired RoTo to embellish the building's exterior. After considering the redevelopment program, though, RoTo proposed integrating public space into the warehouse. "The governor wasn't specific as to how the building was to be made public," explains RoTo Principal Michael Rotondi. "Partly, he meant that the building should be visible from the harbor. To us, the promenade seemed the most obvious way to add a public function to the building since it was on such a prominent site." The result is a generously proportioned walkway that flows over the top of the building, allowing for panoramic views of Nagasaki's rolling landscape.

RoTo clearly made an effort to tie the building to its context. Folded plasticized fabric canopies that cap the warehouse are clever foils to the surrounding mountainscape, and the building's bright colors cheerfully echo the hues of ships

architecture: augu

Dragon Promenade's sweeping, steel-clad forms echo ship contours in Nagasaki's harbor (top row). Sculptured orange orb (second row) crowns walkway atop warehouse; designed to house exhibition hall, it remains empty.

E.

- Marrie

Tubular steel frames (third row) support fabric panels that shade rooftop promenade. Staircase at northeast corner of building (bottom row) leads to covered walk, providing sheltered access to nearby ferry terminal. Steel enclosure (following pages) wraps warehouse's south end and shields deck from monsoons.

NET



- MICHINE STATISTICS









anchored nearby. The deck is a pleasant path between the waterfront complex's new buildings and the city. RoTo designed a complicated structure to modulate the effects of Nagasaki's sometimes brutal sun on the pedestrian path. The roof deck has three linear sections: A Teflon-coated fabric canopy on the north allows soft light to permeate the walkway below, while breezes blow through the latticed steel-clad portion to the south. At the southern edge of the building, a less permeable wall constructed of steel plate over steel ribs shields the terrace from Nagasaki's frequent monsoons. Where the steel plating of this enclosure gently folds, it resembles the interior walls of a ship. Although this cover blocks out the harshest light—and views of the large, lumpy shopping mall planned to the south-the terrace's murky character is a heavy-handed contrast to the filtered light elsewhere on the promenade.

It is no coincidence that the warehouse resembles a nautical vessel both inside and out: The architect employed shipbuilders in its construction because, according to Rotondi, "It's second nature for shipbuilders to construct compound forms like that, and it's Nagasaki's main industry. We thought people should recognize that the most prominent building in the city

was built by the city's most important industry." The promenade's undulated, glowing canopies also refer to the snakelike dragons that parade through Nagasaki during a large, popular festival each October. Carried by a team of men, the parade dragons chase a sphere that represents the sun. Rotondi is tickled that the new name of the building— proposed by a 10-year-old girl in a city-sponsored contest to christen the building with a livelier name than "Warehouse C"—acknowledges its iconic value. However, neither image of dragon or steamer ship was high on the architect's mind during design. "These are more interpretations of the building than ideas that generated the form, but the metaphors help people understand the building," suggests Rotondi. Visible from virtually anywhere in the city, the orange steel ball crowning



the most controversial feature of the roofscape. Rotondi hoped the sphere would attract visitors; he even proposed inserting an exhibition hall inside it. The government however, balked at the anticipated cost, and the sphere remains unoccupied. As a result, it is a conspicuous bauble. When local newspapers suggested that this piece alone cost 300 million yen (about \$2.25 million), the building's unusual appearance became a rallying point in the last election: Public perception was that the warehouse was unnecessarily overwrought and expensive-although the architect cites the cost at only \$1 million and, ironically, construction of the entire project came in below budget. Rotondi claims the difference could have built the exhibition

CLIENT: Nagasaki Prefecture, Japan—Isamu Takada (governor), Hideto Hori'ike (commissioner to the (governor), muero mon me (commissioner to me governor) **ARCHITECT:** Ro To Architects, Los Angeles— Michael Rotondi, Clark Stevens (principals), (project team), Anthony Caldwell, James Keyhani, David Lazaroff, Jeannette Licari, James Malloch Taylor (assistants) Associate Architects: Arai Architects, Nagasaki, Japan—Kiyokazu Arai (principal), Teruki Umezaki (project architect) Executive ARCHITECT: Mitsubishi Estate Company, (principal), Teruki Umezaki (project architect) Nagasaki, Japan—Kiyokazu Arai Consultant: April Greiman GENERAL CONTRACTORS: Mitsubishi Heavy Industries, Taiyokogyo Corporation, Eikawa Construction Company, Tanigawa Construction Company, Yoshikawa Construction Company, Toei Construction Company, Taishin Construction Company cost: \$29 million PHOTOGRAPHER: Dana Buntrock

Still, public antipathy remains strong. (Most locals I questioned opposed the warehouse, but few had bothered to visit it.) The current administration remains unsupportive and has made decisions that both delayed and further diminished the promenade's appeal. Drawnout negotiations with an adjacent landowner held up public access and ultimately led to a redesign of the eastern stair, the only access constructed to date. A western stair, which would tie the roof to the remainder of the site and integrate handicapped access, is built, but roped off by city officials concerned that the homeless would spend the night on the stairs or suicidal youths would hurl themselves from their upper reaches. A few meanspirited benches—made of hard, flat plastic intended to discourage lingering (this client has taken the term "promenade" very literally)—are unfortunate. As a result, the roof deck remains isolated and offers scant comfort to those who visit. The deck itself could be improved simply by adding more inviting furniture and completing RoTo's original procession. Rotondi With minor effort, especially in light of how much this project has already cost the city, RoTo's building can become the important contribution to Nagasaki's urban fabric the architects intended it to be—if its citizens give it the chance.

the University of Illinois at Chicago.

### Spiritual Retreat



A synagogue on Vancouver's North Shore infuses rustic construction with Biblical imagery. By Raul A. Barreneche



For thousands of years, the Jewish people have struggled to protect their identity against the corrosive effects of the Diaspora. Yet surprisingly, religious architecture has not played the decisive role in reinforcing Jewish culture and tradition that it has among Christians: Instead of reflecting continued Jewish migration, synagogue design has been an ongoing exercise in adapting to place. Unlike the traditional basilica plan of their Christian counterparts or the modular geometries of Islamic mosques, there is no single typological paradigm for synagogue design. "Every synagogue is of its time and place," asserts Principal Mark Ostry of Vancouverbased Acton Johnson Ostry Architects (AJO), whose synagogue for Congregation Har-El on Vancouver's North Shore speaks to several different times and places.

There are architectural features common to many synagogues: an exterior courtyard, a ceremonial washbasin at the entrance, and a worship space facing Jerusalem. All of these elements allude to the believed form of Solomon's temple in Jerusalem, an ancient structure of supreme importance to the Jewish faith, destroyed nearly 3,000 years ago. AJO transported these and other architectural elements from Solomon's temple to present-day Canada.

AJO responded thoughtfully to the building's awkward site: The synagogue occupies a 1.7-acre parcel on the edge of Stanley Park's

Synagogue's east-facing classroom wing (facing page) bridges stream in forested site. Washbasin's smooth glass tiles in entrance foyer (facing page, center and above left) contrast with rough concrete floor (facing page, right). Sleek, customized maple door pulls (above right) accentuate wooden doors to sanctuary (above center).



lush, stately preserve; a thicket of towering firs and robust rhododendron edge a stream—a protected salmon run—at the southwest corner of the property. However, at the site's northern and eastern edges, the stream's rush of water gives way to the less tranquil rush of a highway interchange.

The L-shaped synagogue wisely focuses on the picturesque, letting the building hug and even bridge over the stream's bank while turning a solid face to the highway. The two-story block to the north (the L-shaped plan's short leg) contains the sanctuary and a social hall. The perpendicular single-story wing (the long part of the L) houses classrooms, a rabbi's study, and administrative offices. This wing of the building spans the stream; a pedestrian bridge that runs alongside the classrooms connects the synagogue to a parking lot on the opposite bank. This separation lets worshippers disengage from the profane world of the automobile and enter the quieter, sacred realm of nature and worship.

AJO dotted the entrance sequence with Biblical building references, finely tuned to Har-El's woodland surroundings. The bridge, for instance, terminates in a courtyard, an outdoor room framed by the building and the stream. Tall timber columns that support the double-height entrance portal are Rain Coast versions of Jakhim and Boaz, the mythical stone pillars that supported the original Temple of Solomon. To the west of the entrance, a canted wall of golden Jerusalem stone quarried in Israel frames the north flank of the courtyard. The "battered wall," as Ostry describes it, consciously alludes to the symbolic Wailing Wall, the only surviving fragment of Jerusalem's Second Temple.

Inside, a soaring, double-height vestibule and gallery joins the sanctuary and social hall with the rabbi's study, administrative offices, and classroom wing. In this space, religious traditions and rustic materials give way to a clean, spatially dynamic assembly. The canted wall that encloses the gallery squeezes against a concrete block wall and staircase, while timber beams overhead bow counter to the angle of a butterfly roof over the vestibule. Walls and roof never touch; they're separated by a thin clerestory and skylights that convey the building's underlying composition of individual planes and porous volumes.

The vestibule's rich materials raise visitors' expectations for the rest of the building: Tiny blue and gold glass tiles clad a ceremonial washbasin, and rough-hewn horizontal bands of Jerusalem

Classroom block's aluminum-framed windows (above left) overlook stream. Concrete bridge over stream (facing page, top) connects parking lot to entrance. Doubleheight entrance canopy and canted stone wall (facing page, bottom left) frame plaza. Wrightian concrete pier on sanctuary's east face (facing page, bottom right) houses ark containing sacred scrolls. Rain sluice is scored into center of pier.













HAR-EL SYNAGOGUE AND COMMUNITY CENTER, WEST VANCOUVER, BRITISH COLUMBIA CLIENT: Congregation Har-El ARCHITECT: Acton Johnson Ostry Architects, Vancouver, British Columbia—Mark Ostry (partner-in-charge), Russell Acton, Greg Boothroyd, Kathy Hancox, Greg Johnson, Jennifer Mallard, Scott Posno (project team) ENGINEERS: Glotman-Simpson Consulting Engineers (structural); DWT Stanley (mechanical, electrical) CONSULTANTS: Stevenson and Associates (landscape); Coast River Environmental Services (fisheries biology) GENERAL CONTRACTOR: Erich Krause COST: \$2.1 million PHOTOGRAPHER: Martin Tessler, except as noted stone wrap the rabbi's study just off the vestibule. Dissimilar materials never touch—they're separated by <sup>1</sup>/<sub>2</sub>-inch reveals, as they are throughout the building, much like the slots that separate the roof and wall planes.

On axis with the exterior portal, a pair of imposing fir doors fitted with bold custom maple pulls leads to the sanctuary. Unfortunately, the sanctuary lacks the finesse and dynamism of the lobby and the grace of a place of worship. At the rear of the hall, for instance, a folding vinyl screen meant to join the worship space to the social hall next door (to handle large crowds on High Holy Days) makes the sanctuary feel like a common auditorium. Custom-designed pendant lamps shaped like Stars of David (which even Ostry admits are kitschy) cheapen the space. It boasts some interesting material flourishes, though: Scissored glulam trusses support a butterfly roof, and a graphically bold wall of staggered square windows frames a Yahrzeit, or memorial wall, dedicated to deceased members of the congregation. Overlooking the sanctuary, a second-floor lounge feels airy. Daylight washes down the walls through ribbon skylights, while the trusses overhead make the space feel like a comfortable attic.

The rest of the building's interiors are a mixed bag: An acoustic tile ceiling renders the social hall common. The classroom wing to the south is polished, as is the rabbi's study, a curved, womblike room crowned by a pair of oval skylights.

Despite some shortcomings, Har-El makes a strong case for religious architecture that recounts important traditions without resorting to overt iconography or outdated conventions. By tempering strong Biblical symbolism with a thoughtful regional spirit, AJO created a building that is of its time and place, as well as part of a cultural continuum. Har-El gives its community a strong sense of both history and modernity.

Stair (facing page, left) connects entrance vestibule with second-floor gallery behind canted wall. Presentation plans do not show classrooms added to east of bridge. Southwest corner of vestibule (right) showcases material palette: aluminum-framed windows, Jerusalem stone bench, cedar columns, glulam beams, and concrete floor and stair.





Glazed community room (top) fronts landscaped public zone. Steel-framed colonnade screens one-story brick structure that contains precinct house. Perspective (above) emphasizes strong horizontality of ground plane and broad roofs of community room, precinct house, and colonnade (left to right). Police station stands at intersection (facing page, top right) of 31st Street and Nicollet Avenue in Minneapolis's struggling inner-city neighborhood of Lyndale. Raised plaza (facing page, center right) leads to steel-framed colonnade that links community room and precinct house. East facade (facing page, bottom right) offers secondary entrance from landscaped plaza.

# street

A new police headquarters opens to its Minneapolis neighborhood. By Edward Keegan

Architect Julie Snow has a problem. She habitually refers to her firm's design for the new City of Minneapolis Fifth Police Precinct as the "Cop Shop" even though her clients do not consider this a dignified description. But it's too good to discard, because it reflects how Snow invested a potentially glum, low-budget building with a sense of genuine pleasure and community spirit. The Fifth Precinct is the first station that Minneapolis has built to accommodate community policing, a contemporary approach to law enforcement that integrates community functions within the traditional station house, and attempts to foster an increased—and positive—police presence within the community. Snow was given an assignment of architectural contradictions: open a traditionally closed building to the community, while maintaining requisite levels of security, for its occupants.

The Fifth Precinct occupies a half-block parcel in the economically blighted Lyndale neighborhood south of downtown Minneapolis. Major commuter arteries carry traffic from the city core along the east and west sides of the site, while the north marks a transition between commercial and residential zones. Local community groups active in the design process identified the site's northern boundary as part of a neighborhood greenway system that connects Minneapolis's chain of lakes.

Two distinct volumes represent the public and private faces of Snow's L-shaped composition. A double-height glass and brick pavilion that sits within the greenway zone to the

north houses a community room. To the west, a rectangular brick structure with stainless steel-clad window surrounds contains police operations within its ground floor and basement. A paved exterior "room," where the complex's public and private functions meet, forms the corner of the "L". A single-story colonnade connects the two structures and links the paved plaza to a landscaped plaza with tautly sculpted earth mounds to the east. Snow consciously developed the varied interior and exterior "public" spaces within the greenway zone along the north, while relegating police functions and parking for 100 vehicles to the south.

Snow's building topography reflects the potentially conflicting demands of the com-











First-floor plan



Lower-level plan

\_\_\_\_\_J 30'/9m 🕘



munity policing concept. "The neighbors wanted the building to appear accessible, not be a fortress," explains Snow, "but the police required a defensible space for their operations." In response, Snow raised all the building elements, including the formal plaza, several feet above the surrounding sidewalk. Raising a public building on a plinth is not only a venerated architectural device that lends the Fifth Precinct house stature, but also one that provides a psychological and physical separation to protect the building from "crashing," a vehicular terrorist attack.

While Station #5's social agenda, layered with certain sophisticated security requirements, may have been a challenge, the functional program for the 22,000-square-foot structure is straightforward. The community room, public lobby, and the station's front desk where community members can converse with on-duty officers—occupies about 3,000 square feet. Precinct house functions include offices, administration, and storage on the ground level and a lounge, gymnasium, and locker facilities in the basement. By shifting the line of structure to the east wall, Snow creates a light well for each of the basement's public rooms, while stainless steel-clad punched openings in the offices light first-floor spaces.

Snow conceived the community room as a light-filled volume: Its presence within the landscaped public zone symbolizes the precinct to the community. Extensive glazing admits copious daylight, while smartly concealed uplights create a lantern effect at night. Keeping the massing simple provides certain economies of construction, but Snow maintains there's an esthetic opportunity as well. She directs the viewer's attention to the small scale. "The materials and their manipulation are enhanced," she claims. Snow exploits this perception by developing the building's constructional elements in a straightforward architectural vocabulary. The building's most distinctive formal gesture is the intersecting reverse kingpin steel truss that supports the community room roof. Sitting on tubular steel columns with crossbracing tension cables, this structural system provides the most economical means to span the room and enhances the airy quality of the space by visually lightening the roof.

The building displays a simple palette of materials: sand-molded brick, metal, and glass.


Reverse kingpin truss (facing page, top left) supports community room's steel-deck roof. Community room's steel and masonry corner detail (facing page, center left) emulates Ludwig Mies van der Rohe's Illinois Institute of Technology buildings. Stairway's steel guard and handrail system (facing page, bottom left) features butt-glazed infill panels. Community room (above) overlooks 31st Street, an east-west thoroughfare that leads to Minneapolis's lakes. Threaded steel rod cross bracing supports roof that spans 44 feet.

Snow elaborates these as a series of related details throughout the project. The exposed metal roof deck on the interior of the community room and lobby colonnade expresses its thin edge at the exterior eave throughout the building. The structure's flat roofs overhang the exterior wall with a shallow cornice. Thin metal elements act as copings for the brick walls and at control joints within the brick infill panels. The stainless steel surrounds are crisp and simple.

From the generic steel compositions of Ludwig Mies van der Rohe to the horizontal roof forms of the Prairie Style, Snow builds on distinctly Midwestern precedents. But the budget was very tight, and many of the well-conceived details, particularly those involving custom steel fabrications, cannot withstand close scrutiny.

Snow recognizes that limited funding raises questions of durability and longevity in public buildings. The project's skinflint (though not atypical) budget is indicative of a prevailing cultural contradiction. While the architect was asked to design a police station that contains and expresses an increased social interaction between the police and the community, the dollars simply do not reflect a significant public investment. "We have sold short the idea that public buildings are images of ourselves," says Snow. Her handsome Minneapolis Fifth Police Precinct accurately portrays the current state of the body politic embodying lofty concepts while reaching for an expression more articulate than its meager budget can reasonably be expected to sustain.

#### FIFTH POLICE PRECINCT, MINNEAPOLIS

CLIENT: City of Minneapolis ARCHITECT: Julie Snow Architects, Minneapolis—Julie Vandenberg Snow (principal), Ben Awes, Douglas Coffler, Christian Dean, Todd Hemker, Greg Larson, James Larson, Mark Larson, Krista Scheibe, Tom Van De Weishe (project team) LANDSCAPE ARCHITECT: Damon Fraser Associates ENGINEERS: Mattson/Macdonald Engineers (structural); Jack Snow Engineering (mechanical); Kagding Associates (electrical); Woodward Clyde (civil); Scott Futrell (fire) CONSULTANT: Ted Jage (cost estimating) GENERAL CONTRACTOR: Sheehy Construction Company COST: \$2.6 million PHOTOGRAPHER: Don Wong Photography

## Retooling the Shed

The newest house by Berkeley, California, architect Fernau & Hartman wavers between conflicting conditions: It's an 8,000square-foot house, but its gestalt is a cluster of perky little sheds. It's both a rural retreat and a polished place to entertain. Boundaries between indoors and out are indistinct throughout: Sometimes, these ambiguities work to great effect; at other times, one wishes the architect had chosen one condition over the other.

Fernau & Hartman designed the house for former West Virginia governor Gaston Caperton, who called on the firm after encountering their work in *The New York Times*, and discovering that Partner Laura Hartman was a West Virginia native. The ex-governor's residence occupies a 25-acre swath of land outside Shepherdstown, West Virginia, on a promontory overlooking a bend in the Potomac River. A canopy of third-growth forest crowns the site; tall, impossibly thick grass had to be cleared to make way for the house. Fernau & Hartman oriented the structure to follow the site's gently

In the woods of West Virginia, Fernau & Hartman Architects puts a Modern spin on Appalachian traditions. By Raul A. Barreneche







House surrounds entrance court to north (facing page, plan). Seen from entrance drive, project appears as village of colorful wood and metal pavilions among trees (below). Low, limestone wall creates unifying datum across site.

curving contours, taking advantage of distant views of the river and the immediate woodland surroundings. "The basic idea was to carve open the forest," explains Hartman. "We made a clearing in the woods on the entrance side, but let the woods come right up to the house behind it."

The house was to be as much a quiet escape for Caperton after eight years in the governor's mansion as a place to throw parties and host weekend guests. Fernau & Hartman thus designed a collection of semidetached pavilions—filled with intimate nooks and large gathering spaces—in a low-slung ensemble that frames an open forecourt to the north. Visitors follow a winding walkway through this grassy court and enter the house beneath a bright yellow shed, which perches over the front door on a pair of rustic timbers. A low limestone wall joins the main house to three separate elements: a garage to the west, and an outdoor living room and guest house to the east.

The main house fans out along an 8-foot-wide gallery that follows a bend in the site. This linear spine—the most formal interior space—provides access to pavilionlike wings on the north that contain a pair of guest bedrooms, a den, and a living and dining room. Caperton's collection of West Virginia arts and crafts, lit by north-facing clerestories that extend the length of the gallery, fills the whitewashed promenade. At the eastern edge of the house, the gallery flows into the dining room and kitchen, a conjoined space panelled in warm cherry. The gallery and dining room's compressed spaces



give way to an airy living room at the house's eastern extreme that occupies a wooden pavilion with a butterfly roof. Here, the container seems to dematerialize, as windows erode the corners of the double-height box, and the inverted ceiling soars. Above the dining room are the main bedroom and bath.

Behind the living room is the quirkiest component of the multifaceted house: a four-story tower. This 14-foot-square perch contains some of the most intimate, inventive spaces in the house: a tiny study, a screened-in sleeping porch off the main bedroom, and an observation deck. The tower overlooks an adjoining swimming pool, which sits between a freestanding outdoor living room and kitchen pavilion with a rustic timber frame roof and rough stone walls. At the pool's edge, water cascades over a stone retaining wall where the hillside rolls down toward the river. Terminating the eastern edge of the rambling complex is another gem: a two-level guest house in a red wooden skin, with a playful metal pop-out window that protrudes from one of its corners.





The house's punchy, colorful exteriors and simple, shedlike volumes are signature Fernau & Hartman: interlocking pieces wrapped in galvanized aluminum and stained cedar, capped by standing-seam aluminum roofs. Rough-and-tumble local building types, including wooden barns and stone sheds, inspired the architect's choice of forms and finishes. "People see vernacular as romantic, but we see it as awkward and purposeful," Partner Richard Fernau suggests. "I consider it an architecture of expedience."

The smaller-scaled blocks help mitigate the house's actual size. But there seems to be no logic to the selection of the volumes' colors and sizes, nor to their compositional organization. The four-storyhigh tower at the eastern edge, for instance, competes with the entrance frontispiece for visual prominence, dominating the entrance facade like a giant exclamation point. The gaze of visitors walking along the pathway to the front door is drawn immediately away from the entrance and toward the tower. The level of detailing is also inconsistent among the pieces. The tower boasts more exuberant and expressive detailing; corner windows on the third-floor study break through the red-stained cedar siding to



Linear gallery (below left) links wings of house and displays owner's collection of West Virginia arts and crafts. Corner windows in soaring living room open onto views of wooded hillside and Potomac River (below). Butterfly-roofed living room flanks whimsical four-story tower that houses sleeping porch, study, and observation deck (facing page). Water from swimming pool (foreground) cascades over rough limestone wall.



reveal the timber framing, which is beefed up by steel cross bracing at the first two levels. Overhead, steel rods tie down the canted metal roof that crowns the top-floor lookout. The entrance, by comparison, lacks the same level of refinement; it is framed by a pair of timber posts that look too stubby and plain to appropriately herald the front door of the house.

The most compelling feature of the house is its transformation from winter to summer. Hartman recognizes that a full-fledged migration to the outdoors takes place each summer. To wit, the poolside mini-cottage is not just an open-air sitting porch; it's a polished living room al fresco with a fully stocked second kitchen where the household cooking takes place during warmer months. On summer nights, the owner can roll a bed out from the main bedroom to the screened-in second level of the tower and sleep among the trees. Compared to unconventional spaces like this porch, the outdoor living area, and the observation deck, more traditional spaces in the house, like the gallery and dining room, feel stuffy. The more polished bits of program lack the casual, vibrant spirit of their seasonal counterparts.

The Caperton House tries to be both a country retreat and a formal residence, a large manse and a cluster of cottages, a winter house and a summer house. However, the building is at its best when the architects let it be lazy, and when guests can feel the intimacy of its smallest parts. Fernau & Hartman is most skilled at creating rustic retreats that capture the joyfulness of a summer camp-not fancy mansions. The architect and client should have let the house's more formal areas loosen up, and traded in its coat and tie for a pair of comfortable overalls.

#### CAPERTON HOUSE, SHEPHERDSTOWN, WEST VIRGINIA

CLIENTS: Gaston Caperton and Rachael Worby ARCHITECT: Fernau & Hartman Architects, Berkeley, California-Richard Fernau, Laura Hartman (partners-in-charge), Jeffrey L. Day (project architect), Alexis Masnik, Don Najita, Michael Roche (design team), Sean Gilmore, Joe Lambert, Mary-Lynn Radych, Anni Tilt (project team), Aaron Thornton (modelmaker) LANDSCAPE ARCHITECTS: Oehme van Sweden Associates; Katja Sherwood ENGINEERS: Structural Concepts (structural); L.S. Grim & Company (mechanical, electrical, plumbing) CONSULTANTS: Grove & Dall'Olio Architects (site), Richard Peters (lighting); Andrea Marquit Design (interiors); The Hillier Group (pool) GENERAL CONTRACTOR: Pray Construction Company COST: Withheld at owner's request PHOTOGRAPHER: Prakash Patel



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## Technology+Practice

#### Solar Film

DuPont's new lightweight Tefzel fluoropolymer film integrates solar technology into structural designs. Developed to incorporate a new breed of amorphous silicon photovoltaics (PV) modules, Tefzel acts as a PV encapsulant with high mechanical strength and resistance to cracking and abrasion. Architect Nicholas Goldsmith incorporated the membrane and embedded PVs into a tensile roof structure (above), currently exhibited at the Cooper-Hewitt National Design Museum in New York City. The film diffuses sunlight and allows air to vent. *Circle 293 on information card.* 

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## **Computers** Latest and Greatest from A/E/C

New gadgets unveiled at this year's construction industry computer show in Chicago keep architects on the digital forefront.

#### Compiled by Patrick Mays and Bruce Palmer

This year's A/E/C Systems, held in Chicago in June, was part high-tech carnival, part old-time revival. On the floor of the construction industry's annual computer show, barkers with microphones lured exhibition-goers into extravagant multimedia booths with promises of prizes and startling technological breakthroughs. If you managed to filter out the colors, lights, and relentless background chatter, your reward was a close look at the newest and best computerized aids for architects.

Though the show wasn't as large as in previous years, consistent themes emerged as vendors focused on key market issues. Most significantly, computer-aided design (CAD) software publishers are tightening their integration of two-dimensional drawing and three-dimensional modeling; Web-based solutions for project information dispersion are becoming increasingly viable; and data-sharing between applications continues to improve. Major product announcements included Bentley Systems' MicroStation/J and TriForma, Autodesk's Architectural Desktop for AutoCAD, Kinetix's 3D Studio Viz Release 2, and Visio's IntelliCAD with Ketiv's ArchT overlay. As usual, there were also software upgrades and new hardware announcements.

#### Architectural Desktop for AutoCAD

Architectural Desktop is Autodesk's response to Bentley Systems' TriForma, Nemetschek Systems' ALLPLAN, and Graphisoft's ArchiCAD, all of which offer more comprehensive design packages. Integrating design and documentation, Architectural Desktop combines all of AutoCAD Release 14's drafting and design tools with integrated 3-D modeling and data-linking. The program includes intelligent conceptual massing models to aid in construction documentation and design development that relies on data associated with drawing components ("objects") to generate schedules, dimensions, and notes.

A door or window object understands its relationship to a wall object. If you delete a wall, the doors and windows also disappear. Delete a door, and the wall cleans up as if the door were never there.

In the new program, geometric primitives of common building shapes allow for the quick creation of conceptual designs. Boolean operations, which add and subtract geometries from each other, allow more complicated shapes. Hidden lines disappear with real-time shading and the software automatically generates levels for multiple floors. Graphic elements link to schedules and reports to continually update one another.

Architectural Desktop ships this month: The suggested retail price is \$4,795, introductory offer \$4,395. Customers with AutoCAD Release 14 can upgrade for \$695; those with versions prior to Release 14, \$895. Softdesk users can upgrade for \$195.











3D Studio VIZ (facing page) references files from AutoCAD 14 so changes made in one place are reflected in another. Notice how top row of windows changed to arches in one program (top) automatically updates in the other (bottom). IntelliCAD 98 (above) provides basic 3-D modeling capabilities, including rendering and shadow-casting for presentations, which can be applied by using simple toolbars. User can open multiple drawings at once, cut and paste among them, and browse and manage files in Drawing Explorer as in Windows Explorer. 3D Studio VIZ (below) offers wide range of standard finishes and colors that can be edited for photorealistic renderings, providing tools for evaluating different design schemes.

#### Visio IntelliCAD 98 and ArchT

IntelliCAD offers experienced AutoCAD users a familiar working environment with functionality somewhere between AutoCAD Release 13 and 14, but at one-tenth the cost; additionally, the integration with other **Microsoft Windows applications** is superior. IntelliCAD operates with the DWG file format so it can open and save AutoCAD files from V2.5 to R14. It also utilizes programs written in AutoLISP (an AutoCAD programming language) and incorporates many ADS-based (data-exchange interface) third-party applications.

ArchT 14.5 shipped in July and is priced at \$495. IntelliCAD 98 was released in May and costs \$349. An ArchT/IntelliCAD bundle is available for \$695.

#### 3D Studio VIZ Release 2

Animation and rendering package VIZ R2 from Kinetix's 3D Studio shows major improvements over its first release. The integration of AutoCAD and VIZ now allows users to generate geometry in either program and transfer the information with ease. There are architectural templates for building stairs, doors, windows, trees, and terrain modeling. Like its bigger sibling, 3D Studio Max, VIZ offers excellent rendering and animation capabilities. Users can drag and drop material textures on model components for review of finish options. Improvements in cursor control, accuracy, and speed are also welcome additions. VIZ R2 was released in June and costs \$1,995.





MicroStation/J (above) includes support for lighting definitions from Illumination Engineering Society (IES), which provides accurate and realistic renderings using ray-tracing or radiosity. Three-dimensional solid modeling tools in MicroStation/J (below) are ideal for conceptual modeling and visualization. Evolv developed ProjectCenter (facing page), Web-based collaborative software, with architects in mind. Contributors upload data to secured project areas on Evolv's Web site; team views information using Web browsers.



#### MicroStation/J and TriForma

Bentley Systems unveiled MicroStation/J, the Java-enabled version of their popular CAD program. Not the latest incarnation of the same old program, MicroStation/J departs significantly from Bentley's previous offerings and CAD technology.

The "J" in MicroStation/J signifies the inclusion of the Java Virtual Machine (JVM) within MicroStation. With Java, developers write small programs-known as applets-that run with MicroStation, a Web browser, or any other incarnation of the JVM. Java is quickly becoming the preferred programming language of the World Wide Web. By enabling MicroStation to "speak" Java, Bentley ensures a tight integration between Internet protocols and CAD environments. CAD drawings can be linked to details and specifications on a manufacturer's Web site or an architect's intranet page.

MicroStation/J also introduces solid modeling capabilities within MicroStation. While MicroStation is a strong 3-D modeling tool, its Achilles' heel is its dependence on surface-modeling techniques. Solid modeling enables a designer to sculpt overall forms instead of laboriously manipulating independent planes. The technology Bentley has dubbed "SmartSolids" is the Parasolid modeling engine licensed from EDS Unigraphics. Parasolid has long been used in high-end mechanical and productdesign software.

SmartSolids is an important addition to the latest version of TriForma, Bentley's architectural design and documentation software, which has object behavior intelligence. No longer limited to surface modeling, architects can construct almost any shape. Users can then easily export sections and elevations to two-dimensional drawing files for notation. While TriForma has been on the market for nearly two years, firms have been slow to adopt software based on the single-building model. Bentley hopes this release will convince architects that the software is ready for prime time. Bentley is bundling additional software with MicroStation/J (TriForma, Geopack, or Modeler). Pricing is not yet available. The product should ship in early 1999.

#### **On-line project management**

An important theme in this year's show was the advent of tools to facilitate project management on the World Wide Web. Web pages devoted to single-project management will serve as a repository for information provided by all project team members. Browsers such as Microsoft's Internet Explorer and Netscape's Navigator will be the only software required to view and comment on varied documents.

Firms interested in implementing Internet-, intranet-, or extranetbased project management programs have two options: maintain the site on their own servers or pay a monthly fee per project for someone else to do it. Start-up companies like Evolv in Portsmouth, New Hampshire, have developed software programs that simplify the task of establishing project Web sites.

ProjectCenter utilizes Bentley Systems' ModelServer Publisher to display CAD drawings on the Internet. Firms wishing to develop project sites on their own networks can buy the program from Bentley or as part of an administered service called ProjectWise, developed by Bentley's strategic affiliate WorkPlace System Solutions. With ProjectWise, a team installs and organizes the project's Web site and trains key users and administrators.

Evolv costs \$189 per month per project for up to 250 MB of "published" data (\$139 for AIA



members) and \$489 per month per project from 250 MB to 1 GB (\$389 for AIA members).

For architects wishing to develop their own sites, Framework Technologies Corporation offers the ActiveProject 3.0, an intuitive program for the creation and upkeep of project Web sites. Eliminating the need to learn obtuse programming languages such as HTML. ActiveProject simplifies Web page layout using visual techniques in two products. ActiveProject Builder 3.0 is an easy-to-use software tool for visually organizing and publishing information on a project Web site. ActiveProject Server adds security, access control, real-time publishing, and user-initiated subscription and change notification.

ActiveProject Server retails from \$9,995 for a 10-collaborator license; ActiveProject Builder costs \$2,995.

Patrick Mays is a principal architect and chief information officer for NBBJ in Seattle. Bruce Palmer is director of technology in Gensler's New York City office.

#### Editor's note:

Links from this article to additional product information can be found at www.architecturemag.com.

Next year, A/E/C Systems will celebrate its 20th anniversary at the Los Angeles Convention Center from May 24-27, 1999. The smaller A/E/C Systems fall show will be held at the Baltimore Convention Center from October 26-29.

### Products Space and Time



#### 1 Bas-relief Panels

1

The first in a series of basrelief plaster panels, 1 Thing's "Harlan" wall tile measures 15 inches square and is available in unfinished plaster or custom-painted. Installation is similar to mirror or thin stone, using construction adhesive. *Curcle 294 on information card.* 

#### 2 Compact Water Heater

35.5"

2

**Controlled Energy** Corporation's compact, gasfired, on-demand water heater, AquaStar, delivers continuous hot water at flow rates up to 5 gallons per minute. In both commercial and residential applications, the tankless water heaters realize energy savings of up to 50 percent by eliminating the need to maintain constant water temperatures. AquaStar does not use energy, except when hot water is required—about 30-40 minutes per day in the average household. Additionally, AquaStar's compact size allows it to be centrally located and hung on a wall to minimize hot-water delivery distances. Circle 295 on information card.

#### 3 "Green" Elevator

3

Elevator manufacturer Montgomery Kone offers an environmentally friendly alternative to hydraulic and traction elevators with its gearless elevator, EcoSystem. Using less electricity than other systems, EcoSystem offers lower ownership costs, and its compact design eliminates the need for a penthouse or machine room. At the heart of the system is EcoDisc, a compact and lightweight AC gearless motor of axial synchronous design with an integrated traction sheave, brake flange, and rotor. Circle 296 on information card.

#### **4 Quartz Watches**

From Swiss architect Hannes Wettstein, who designed the Swiss Embassy in Madrid (1994), comes two lines of quartz watches manufactured by Ventura Design on Time. The V-tronic and V-matic collections feature a variety of simple, elegant designs in titanium or stainless steel in both chronograph and simpledate models. One piece, the SPARC, is self-winding and will run for 120 days after being worn only a few hours. Circle 297 on information card.

**5 Versatile Storage** 

Crisp, colorful, and versatile, WOGG Boxes, also designed by Swiss architect Hannes Wettstein, offer a unique alternative for the storage, presentation, and transportation of papers and objects. Built of lightweight but rugged expanded polypropylene, WOGG Boxes easily configure in any manner through interlocking cams and cavities. The boxes are available in a variety of colors and pull-out files, dividers, and locks. Circle 298 on information card.

#### 6 Kinetic Chandelier

6

Merging industrial materials with simple organic forms, David Weeks Lighting Studios offers a new line of lamps, wall sconces, and ceiling fixtures that draw on early European Modernism and kinetic sculpture. Aluminum Bullet Chandelier No. 403 has eight adjustable aluminum shades in anodized silver. Ceiling mount and frame are blackened steel. *Circle 299 on information card.* 



7 Laurinda Spear Formica Formica Corporation has partnered with Laurinda Spear of Miami-based Arquitectonica to develop a new line of laminates. The Laurinda Spear **Collection features 13** designs including For Rent, which reproduces apartment newspaper ads from four countries; Millennium Birch juxtaposes silver and gold rectangles against a cherry-colored woodgrain. Circle 300 on information card.

## Technology Guess Who's Going Green?

Innovation, integration, and especially imagination have moved "green" building from the fringes to the boardroom. Some unexpected people are leading the way.

#### By Sara Hart

They consume one-third of their energy from fossil fuels. They use two-thirds of the electricity consumed in the U.S. and, therefore, account for two-thirds of carbon dioxide emissions. They consume one-sixth of the world's freshwater and one-quarter of the world's wood harvest. Their footprints often contaminate the landscape, creating unusable "brownfields." They are, of course, buildings.

This century's technological advances allowed the building industry to triumph over natureglass, steel, and concrete towers loom over golf courses in the desert and rest confidently on fault lines. People once thought the consequences of devouring natural resources with unrestrained development could be deferred indefinitely. Yet scientific reports issued almost daily warn that such short-sightedness has undermined the earth's ecosystems to the point where conservation alone is no longer a solution, but merely damage control. The building industry must adopt environmentally safe construction and building operations and maintenance in order to be part of the solution.

Fortunately, many architects, engineers, builders, and real estate developers are doing exactly that. Whether you call the movement green design, eco-tech, sustainable building, or environmentally responsible development, governments, institutions, and corporations worldwide are giving it momentum with subsidies, grants, energy credits, and legislation. Public and private research and development have produced a wealth of ecologically propitious building materials and systems; the Construction Specifications Institute's database lists 1,800 such products. Furthermore, computer programs remove the guesswork from the green design process by making it possible to assess the impact these products and systems will have on a building's infrastructure, its energy use, the external environment, and-most important to many-the bottom line.

#### Let the sun shine in

The built environment's relationship to declining energy assets has moved from consumption to conservation to actual energy production within a building with the use of photovoltaic (PV) cells. Based on semiconductor technology, PVs produce electricity. They are modular with no moving parts, generate no pollutants, and require only sunlight as fuel. Although they've powered satellites and space vehicles for 40 years, PVs are only now becoming a viable source of power on earth, as technical refinements lower prices and manufacturers respond with applications that enhance their architectural appeal.

PVs are an integral design element of Four Times Square, a 48-story office tower rising in the heart of Manhattan's most fabled and over-crowded commercial district. The future home of publishing giant Condé Nast and other commercial tenants, Four Times Square is believed to be the first comprehensively green skyscraper in the U.S. Designed by New York City-based Fox & Fowle Architects for developer the Durst Organization, the building will produce energy through spandrel panels made of thin-film PVs, laminated into tempered glass and structurally glazed into the curtain wall. In industry parlance, when PVs substitute for building materials, they're referred to as buildingintegrated PVs (BIPVs).

The BIPVs at Four Times Square are more a symbol of the developer's commitment to sustainable building than they are a major source of power. Located on the southern and eastern facades of the upper 11 floors, the peak output will be about 14 kilowatts (4,000 kilowatt hours) per month, roughly enough electricity to power five or six suburban homes. "Had we put them everywhere, the output could have been 350 kilowatts at peak, which translates into 107,000 kilowatt hours per month," explains Fox & Fowle Principal Daniel Kaplan. "This would've provided about one-quarter of the base building's requirement, and that would be significant. Unfortunately, an economic payback of about 12 years didn't justify it. But that wasn't the point. We consider this to be an in situ demonstration; we'll study its impact over a long period."

Industry seems ready to respond with more performance data and further refinements. According to the Solar Energy Industries Association (SEIA), the annual U.S. photovoltaics market could top \$2.5 billion in the next decade. "As PVs



get closer to resembling building materials other than glass, such as sheet metal and shingles, the demand will increase," suggests Greg Kiss, principal of Kiss + Cathcart Architects in New York City, who acted as a PV consultant on Four Times Square.

#### Whole greater than its parts

Legitimate green design requires more than the application of a single technology, such as BIPVs. Wholesystems integration, a process that recalls the preindustrial age when building trades worked closely together and sometimes overlapped in their functions, offers a promising alternative to current practices. In the 20th century, trades have evolved into specialized professions and, as a result, independent consultants perform work sequentially. In the The firm worked with an in-house ecology task force to evaluate the impact of Duracell's proposed building on its 44-acre site. The resulting criteria directed, for example, that storm water run-off be integrated with existing patterns and that wetlands remain undisturbed: native plants and meadow grasses be used instead of high-maintenance turf and thirsty ground cover; and that building and garage footprints and roads be limited to only 6 acres of the 44-acre site. In addition, most construction waste was recycled or salvaged, and local conservation groups helped create a long-term habitat and wildlife plan.

The building itself was designed for maximum energy efficiency, incorporating low-emissivity glass and additional insulation. These aren't unusual measures by today's

#### The message is clear: no more excuses. If a 1.6 million-square-foot speculative office building in Manhattan with multiple tenants can be green, any building can.

whole-systems approach, the first task is to determine the desired end results in terms of operational costs, energy efficiency, environmental quality, and systems and materials durability. Only then is a project team assembled that will make construction decisions based on the goal of achieving and maintaining high performance over the entire life cycle of the building.

Whole-systems integration extends beyond the building envelope to the immediate site and beyond, as evidenced in the new Bethel, Connecticut, headquarters for battery manufacturer Duracell. Duracell first hired RPM Systems, a New Haven, Connecticut-based environmental consulting firm, to create guidelines for the architect— Herbert S. Newman and Partners, also of New Haven—and engineers. standards, but other efforts were: Twenty-five percent of the structure's steel was recycled from automobiles and demolished buildings; roofing shingles were 95 percent recycled aluminum; and features were added to the HVAC system to provide better air filtration, winter humidification, and acoustical attenuation.

A structure achieves sustainability when all of its systems are engineered to function reciprocally. When an HVAC system is designed without taking into consideration glazing, insulation, daylighting, exterior conditions, and even finishes, the result is an inefficient system that can only react to the various environmental loads placed on it. At Durant Middle School in Raleigh, North Carolina, an energy management system tailors fresh-air circulation to occupancy so that the ventilation system is not in constant operation. This reduced the cooling load, which, in turn, allowed the specification of a smaller and less expensive chiller.

#### The green audit

Measuring the performance of products and systems is essential in any competitive, market-driven economy. Happily, software recently has been developed to analyze in advance the impact of design and engineering decisions on a building's energy use. At Four Times Square and Duracell, the engineers used DOE-2, a whole-building analysis program, developed for the U.S. Department of Energy by researchers at Lawrence Berkeley Laboratory's Energy and Environment Division in Berkeley, California. The program uses information about the local weather, architecture, building materials, operating schedules, and HVAC equipment to simulate a building's expected energy use, thus avoiding the costly domino effect that miscalculations can have sooner (denied permits and expensive redesigns) or later (excessive operating costs, inadequate mechanical systems).

At the Green Building Challenge '98 (GBC '98) in Vancouver, British Columbia, in October, international teams will present representational green buildings from their countries. To prepare, the teams used the newly developed GBC '98 assessment framework and the Green Building Assessment Tool (analysis software) to evaluate projects, to set "green" standards and, most importantly, to critique both the GBC '98 framework and the software. Although still in its infancy, this software promises to be useful for comparing building performance assessments from around the world. The values assigned to energy efficiency, daylighting, and building materials can be calibrated to reflect indigenous conditions. For example, heat loads for a Swedish school have different values than those for one in the Philippines.

The heart of this experiment is the detailed assessment of many projects. Durant Middle School,



Light floods Duracell headquarters' main circulation spine (top left) through skylights. Lobby (top right) features veneers of renewable wood. Brick manufacturers used more than 5,400 pounds of scrap manganese powder from battery manufacturing process (which lends a dark hue) to create 400,000 bricks (above).

designed by Innovative Design of Raleigh, North Carolina, is one of five buildings that will represent sustainable building in the U.S. at GBC '98. The school was designed to reduce energy use by one-half to two-thirds of what typical schools use and to increase natural light in the classrooms by using skylights. The American team is led by architect Gail Lindsey, chair of the American Institute of Architects' Committee on the Environment, and Drury Crawley of the U.S. Department of Energy. "We chose the school because the architect used daylighting and energyefficient measures, but, more importantly, because he looked at systems integration. This is significant because the state and local agencies that build schools are not in the forefront of green design," explains Lindsey.

#### The color of money

It is an economic reality that the bottom line often drives the development and application of new materials and technologies. As many nonrenewable resources become more scarce and, thus, more expensive, green materials are becoming more economically competitive. In the case of Duracell, the company mandated in its bidding documents that 50 percent of all building materials and finishes contain some portion of recycled materials. RPM Vice President Mark Loeffler admits that "at the time the materials were specified [five years ago], there was a 10 percent cost premium across the board for which Duracell provided a generous allowance. Now the difference in cost would be negligible."

Tax credits, grants, and utility rebates are encouraging exploration into alternative building techniques. In many states, grants are available to offset green design's increased capital costs. For instance, the DOE-2 analysis for Four Times Square was partially funded with grants from the Rocky Mountain Institute (RMI), a nonprofit research and education foundation, and the New York State Energy Research and Development Agency (NYSERDA). Duracell participated in Northeast **Utilities' Energy Conscious** Construction Program and received almost \$300,000 in rebates. Its energy conservation plan includes occupancy sensors in offices, energy-efficient lights, passive solar energy, and windows and insulation with R-values 50 percent higher than standard. These efforts are expected to save Duracell at least \$125,000 in energy costs annually.

#### Spreading the word

Realizing that tenants can build their spaces any way they want as long as they comply with local codes, the Durst Organization has challenged the tenants to ensure that Four Times Square's environmental intentions are sustained. To that end. senior executives of each tenant company watched presentations that explain the benefits of green design. Environmental consultant Pamela Lippe and Fox & Fowle prepared and presented a sample DOE-2.1 energy model of each tenant's space, a collection of green building reference books, and a 20-page compilation of environmental design guidelines.

The word will spread further. Lippe's Earth Day New York, a nonprofit organization that promotes environmental awareness, has assembled *Lessons Learned: Four Times Square*, a collection of analyses and prescriptions by the environmental experts and government officials who worked on the project. The message is clear: no more excuses. If a 1.6 million-squarefoot speculative office building in Manhattan with multiple tenants can be green, any building can.

## Preservation Dirty Work

Preservation of earthen materials, adobe in particular, includes new technologies but relies on maintenance and compatibility.



#### By Eric Adams

In Santa Fe, New Mexico, and scores of similar communities throughout the Southwest, there are two kinds of buildings: adobe and "adobe." The former is the continuation of an ancient building tradition, examples of which may be historically significant and most likely are a little rough around the edges. The latter is wood-framed construction sheathed in adobe-colored stucco designed to emulate the real thing: You see them by the thousands in Santa Fe's suburban housing developments.

While the venerable practice of adobe construction has spawned a latter-day generation of cheap knock-offs, the existing stock of authentic adobe and similar earthen



Crack monitor measures wall movement at Mission San Xavier del Bac in Tucson, Arizona. Building moves cyclically with weather conditions. construction in the U.S. and abroad still far outnumbers the fakes. In fact, the Los Angeles-based Getty Conservation Institute (GCI), which has been investigating adobe deterioration for more than a decade, estimates that half of the world's population lives in houses built of earthen materials.

Sadly, most of these buildings are in poor condition. Neglect coupled with improper maintenancespecifically, the use of suffocating cement plaster-have caused dramatic deterioration of this otherwise highly durable material. In the U.S., Territorial, Spanish Colonial, and Santa Fe-style buildings have eroded so badly they've collapsed or toppled in the wake of earthquakes and lesser seismic rumbles. According to architects and adobe conservators studying the problem, what's at stake is not only centuries worth of cultural heritage, but also more recent buildings in active use.

#### **Delicate earth**

Adobe bricks are sun-dried composites of sand, clay, water, sometimes gravel, and often straw or grass, which is included as a binding agent. The bricks are formed in molds, air-cured for a month or more, and then stacked into one-to two-story walls. In traditional adobe construction, mud mortar joins the bricks, and mud or lime plaster coats the wall to protect the adobe from the elements. With the exception of modern variations that include stabilizers like cement, asphalt, or bituminous material, this recipe has changed little over the centuries. Other earthen architectural materials include kiln-fired clay bricks, or burnt adobe; puddled











adobe, in which craftsmen layer mud directly onto walls; rammed earth, in which metal forms are filled with earth and compressed with wooden poles; and cob, which is layers of clay earth and straw carved into a smooth wall plane.

Though adobe walls are strong and have excellent air temperaturestabilizing qualities, or thermal mass, adobe requires considerably more maintenance than other materials. Plaster coatings erode from exposure and must be replenished on a regular basis. "Though the buildings are built with absolutely no money, they can become quite expensive to maintain," notes Ed Crocker of **Cornerstones Community** Partnerships, a Santa Fe-based restorer of adobe structures. "The irony is that some of the poorest people have some of the most expensive houses to maintain."

Another problem stems from the fact that adobe bricks are not baked in kilns so they never permanently harden. As a result, water content affects the strength of adobe and baked clay bricks. If walls remain damp for too long, the adobe will essentially turn back into mud. Controlling water content is critical and relies on proper drainage and quality plaster coatings.

Choosing a plaster has created most of the conflict surrounding adobe maintenance in the last few decades. In the early 20th century, builders introduced cement plaster as a replacement for mud and lime plaster. This seemed to solve all of adobe's problems: It was plentiful and easy to prepare, sealed the adobe bricks, and required no maintenance. However, most adobe failure resulted from the cement Previous attempts to preserve San Xavier (top left), a still-active Catholic church situated on San Xavier Indian Reservation, of the Tohono O'odham Nation, included encasing mission in cement plaster in 1950s. Current conservation efforts by Bob Vint & Associates focus on removing cement plaster, repairing burnt adobe brick sublayer, and replastering with lime and sand. Cement plaster layer (top right) hid crack in cupola; workers filled crack using small pieces of brick (above far left); restorers completed nave roof after removing cement plaster and applying lime and sand plaster (above left); lime plaster application at wall displays masonry chinking in mortar (above right).



Hohokam Indians built Casa Grande—now a national monument (top left)— located 50 miles southeast of Phoenix, around 1300. Built of puddled adobe, structure has lost considerable wall portions over centuries, but remains extremely well-preserved. Detail (top right) shows cracks, erosion, detachment, and surface loss. Beginning in fall of 1996, University of Pennsylvania and **National Park Service** translated photogaphs into AutoCAD (right) to enable conservators to track changes over time and develop standardized terminology for preserving earthen architecture.



NICHOLAS L. STAPP AND GUY R. MUNSCH / UNIVERSITY OF PENNSYLVANIA

applications. "Though they thought they were protecting buildings, these previous attempts at preservation using cement plaster did significantly more harm than good," says Tucson architect Bob Vint, whose recent work includes the restoration of La Casa Córdova (1850), Tucson's oldest surviving house, and the ongoing conservation of Mission San Xavier del Bac (1797), also in Tucson. Vint points out that one of the fundamental, but long plasters to repair damaged adobe. Most research focuses on the traditional use of lime in mortar and plaster, which hasn't been a part of American adobe construction for so long that institutional memory on the process has faded to practically nothing. Consequently, the learning curve has been high. "When we started working with lime, we did it in all the wrong ways," Taylor says, explaining that Cornerstones and its partners first tried working with

#### Cement was plentiful and easy to prepare, sealed adobe bricks, and required no maintenance. However, most adobe failure resulted from cement application.

forgotten, truths about earthen architecture is that plaster and mortar must have almost the same composition as the brick itself. "Plaster must adhere to the wall," Vint says, "and one of the first things cement does is separate from the brick."

That's only the part of the problem, adds Cornerstones' Pat Taylor, who lives in Las Cruces, New Mexico, and is involved in the restoration of buildings throughout New Mexico and western Texas. Taylor explains that adobe must have room to expand and contract as it absorbs and releases water. Cement, which has been almost universally applied to adobe structures in the U.S., prevents movement and moisture transmission. The cement forms a shell around the adobe, which melts internally over time. In some buildings, when you break open a cement-covered wall, an avalanche of loose dirt will pour out.

#### Ancient solutions

Correcting these problems has required a re-education for architects, conservators, building owners, and communities. These groups are studying historic adobe construction methods to determine the nature of bricks in different regions, which helps in the formulation of new mortars and commercially prepared lime, but it adhered to the adobe poorly.

It was only after the groups began collaborating with adobe experts in Mexico, where lime is still actively used, that they obtained more accurate knowledge. Following advice proffered by the Mexican National Institute of Anthropology and History, Cornerstones revised its lime-plaster manufacturing process to include, in certain situations, naturally occurring lime rocks instead of commercially prepared lime. (Commercially prepared lime is more readily available, and can be specified in adobe construction if done carefully.) Cornerstones also adjusted the preparation and application of the mortar and plaster; Taylor says one of his group's biggest errors was that they treated lime as if it were cement plaster. Specifically, the conservators tried to apply the lime to smoothed-out surfaces, as they would with cement. Lime, however, needs a more textured surface for it to adhere, so they prepared rougher adobe surfaces, including small rocks known as rajueleos as extrusions from mortar joints. Also, instead of applying lime with a trowel, they learned to throw it onto the wall before finishing it: The velocity enhanced the adhesion.

Adobe specialists are monitoring the redevelopment of lime plaster for adobe to prevent results similar to those following the introduction of cement. According to University of Pennsylvania conservation specialist Frank Matero, there is a lot of misinformation circulating about these materials, so their application must be carefully investigated and planned. "Sometimes, lime is touted as being beneficial in all situations, but that simply isn't true," Matero cautions. "For example, using lime in cold, damp climates can have disastrous results because the likelihood of it curing properly is very low."

He adds that education about lime use and adobe maintenance must extend beyond the relatively small circle of knowledgeable architects and conservators to the communities responsible for maintaining their buildings. To that end, Cornerstones emphasizes community involvement in their projects including training programs for underprivileged youth.

#### **Preservation and Prevention**

Earthen architecture faces other threats. In some cases, those threats center on exposed historic ruins that preservationists are reluctant to change, let alone add to the fabric. In 1994, the GCI undertook a multifaceted project to reduce natural erosion in such structures. Their scientists are analyzing historic structures and recent buildings. One project consists of the stabilization of the remains of an 18th-century adobe ruin at Fort Selden, New Mexico, near Las Cruces, with chemical consolidants, shelters, and fabrics. The roofless structure is exposed to the elements and has lost almost half of its material over the last 50 years. "We're interested in an active treatment to consolidate the walls and make them more resistant to rain," explains William Ginell, head of GCI's architecture and monuments conservation research department. One strategy incorporates a sprayed-on commercial consolidant that penetrates the wall, but doesn't



Adobe models built by Getty Conservation Institute allowed scientists to improve adobe's seismic stability. Model braced with steel (top) survived shaking table tests while reinforced model (above) collapsed.

#### For more information

Getty Conservation Institute 1200 Getty Center Drive Los Angeles, CA 90047 (310) 440-7300 www.getty.edu/gci

Cornerstones Community Partnerships P.O. Box 2341 Santa Fe, NM 87504-2341 (505) 982-9521 (505) 982-2516 fax www.cstones.org seal it against water vapor transmission. The material has been applied and scientists are now waiting to see how it performs.

A critical component of the Getty's research is the breadth of adobe structures it encompasses. "Rather than just taking data and transferring it from region to region, we're examining several different types of adobes in different climates," says San Diego architect Wayne Donaldson, who serves on the project's advisory committee. "And we want to keep repair costs low so the methods can be applied around the world."

The Getty is also taking the lead in addressing seismic threats to earthen architecture, analyzing new methods of stabilization. After testing half-scale models on large "shaking tables" in seismic study facilities in Skopje, Macedonia, and at Stanford University in Palo Alto, California, the institute developed two methods for bracing adobe against seismic activity: exterior straps and interior steel supports. "In an earthquake, adobe will crack. It is not an elastic material," Ginell explains. "But if it remains upright, it can be repaired more easily."

The internal bracing method involves inserting rods into the block cores to minimize displacement during earthquakes. Vertical or horizontal rods connect to the structure with a polymer such as epoxy. The other method involves applying metal straps to exteriors. When the GCI tested retrofitted and unretrofitted models on the shaking tables, the retrofitted models withstood the force; unretrofitted models collapsed. "Our tests showed our methods prevent catastrophic collapse," Ginnell says.

**Challenging conservation** 

Historic ruins such as those at Fort Selden touch on one of the most sensitive areas of earthen architecture preservation because adobe is one of the few construction materials that resists traditional notions of historic preservation. "Adobe challenges much of what we hold to be at the heart of modern conservation theory," says Matero, who has been working with the National Park Service on preserving the 700-year-old Hohokam Indian ruin Casa Grande near Phoenix. "For the Western world, that means an obligation to preserve and conserve existing fabric. But when the material by its very nature requires high maintenance and repair, your thinking has to shift. In architecture and construction, performance is defined as durability, which today means low maintenance. Adobe just isn't like that." Those concerned about the survival of this ancient building material hope that this realization hasn't come too late.

Near Las Cruces, New Mexico, cement plaster applied decades before caused wall failure of Doñya Ana mission (c. 1860, right). Cornerstones is now repairing mission with lime plaster.







There's one thing you should know about AutoCAD® Release 14. It's faster. Oh sure, it has improved 3D, polylines, layering, and hatching, all of which make life easier. We incorporated object orientation, AutoSnap<sup>™</sup> and raster imaging, and made it easy for you to publish CAD drawings on the web. All very nice. But, basically, it's faster. What about your AutoCAD experience, current AutoCAD data files and your personalized routines?

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## Practice The Paper They're Printed On

## Architectural monographs are more often publicity brochures than serious analyses of firm work.

#### By Bradford McKee

For all the investment it takes to publish a decent-looking monograph, it is quickly becoming architecture's cheapest form of literature.

Classically speaking-and we're only talking since the 1970s-Rizzoli International was the first to issue these soigné volumes, with spines as sturdy as long-span steel trusses. Their sheer weight conferred a divine gravitas upon the signature architect's delicately foil-stamped name. Monographs furnished a mix of manifesto and exhibition, seemingly descended from the lavish engraved treatises of Leone Battista Alberti, who himself tried to crystallize the teachings of Vitruvius, who in turn appeared to speak for God. The books' beatific tone and Platonic posture seemed to carry the cargo of immortal truth between muslin covers.

Now the market is flooded with monographs that have become, like so much else in the media age, cheap—commodities full of halftruths and dubious prophecies. The monograph as a precious vault of eternal ideas has turned, in so many cases, into a penny arcade of noisy ephemera run by architectural hucksters. An architect's thoughts and work no longer have to be beautiful, structurally challenging, timeless, or prophetic to merit a line on a middling publisher's budget.

The books are easier to come by if the eminence behind the monograph ponies up the cost of producing it and promises to buy a certain bulk shipment of copies. This practice, cheerfully plied by a number of publishers in the United States and Europe, represents architectural publishing's answer to radio's payola: vanity press. In strict freemarket terms, payola was not altogether bad: It brought otherwise marginalized artists-Little Richard, for instance-to the popular fore. But vanity press aims to produce an image that doesn't exist prior to publishing. In the business of making today's monographs, craft has been vulgarized into a transparent attempt to manufacture a phony mythos around mediocre talent. How else are firms like HKS or The Spector Group ever going to go hardcover?

#### **Joint ventures**

Not all publishing houses work this way. The couturiers at the august Rizzoli, the handsome upstart Monacelli Press, and the evercerebral Princeton Architectural Press may cut small deals with a book's titular architect by asking that they subsidize the cost of photography (which often has been taken in advance anyway) or pitch in if they want a full-color printing or a specific graphic designer. But they keep their lines haute by dealing mostly with bankable architects-Richard Meier, Michael Graves, Frank Gehry, Morphosis-whose books sell equally well in the U.S. and abroad. "We want to deal with people recognized for work of a certain quality-a certain dignity and prestige," an editor at one of the high-end houses discloses.

"The publishers have to stay in business," says an editor with another A-list imprint, who, like most of his colleagues, would not speak on the record for fear of shattering his company's mystique. "You have to publish the monographs you think are going to sell. Or you get the architect to pay you for it—but then they're just office brochures."

These are the finicky tastemakers. They tend to invest hundreds of thousands of dollars to print anywhere from 3,000 to 30,000 copies of a given coffee-table title. There is sumptuous typography; there is creamy paper saturated with the finest color printing; there are luminous photographs hung upon pages that have the finish of an austere museum gallery. Often, there is Vincent Scully, or a similar sage, anointing (or reanointing) the architect under wraps.

The consumer can still count on a fair degree of intellect and honesty from the high-end publishers. Monographs are hardly ever purely critical instruments, but the glut of vanity press has reduced its genre's titles to little more than souped-up calling cards. To the book's namesake, spending \$50,000 on a monograph can cost less over the long run than putting together portfolio upon portfolio at \$2,000 a pop-once you account for photography, reproduction, supplies, and staff time-to impress wouldbe clients. At that rate, a hardcover album pays for itself with 25 giveaways. John Hoke of the Washington, D.C.-based AIA Press, suggests: "It's a business. They [the architects] give the publications to clients to promote their firms. The book product is perceived as an excellent way to do that."



**Good and bad monographs** It's important to be clear about what makes a decent monograph. A good monograph attempts to form a historical record of ideas and buildings and does not shy away from odd or disconcerting details about the architect. The best monographs have a polemical edge; the most interesting example in recent years is Rem Koolhaas's *S,M,L,XL*, which attempted to lay out a globalist ideology for building and cities based on their relative size. It was a good try, but the book was more exciting visually (monographs almost always are) than literally. Its often ponderous writing, trumped by hyperactive Bruce Mau graphics, contrived a new "moment" in architecture that could only be termed "Extra Medium".

The best monographs tend to be about dead architects. Only in a

posthumous forum does the light of truth shine on the unpleasant details of an architect's career as brightly as on the heroic. This type of book, like Suzannah Lessard's *The Architect of Desire : Beauty and Danger in the Stanford White Family* (The Dial Press, 1996) or Anthony Alofsin's *Frank Lloyd Wright: The Lost Years, 1910-1922* (Chicago, 1993) often turns architectural history into advertisement

## the **Designer** *is in*



Neil Frankel Carpet and Rug Industry Master Designer and President of the International Interior Design Association (IIDA)

Architecture is pleased to feature "The Designer Is In," a column on the latest design trends, written by Carpet and Rug Industry Master Designer Neil Frankel. Frankel is president of the International Interior Design Association.

In addition to sharing his design advice, Frankel invites you to submit your own questions, which may be answered in future columns.

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soap-opera biography, but also shows how an architect's personal and artistic passions intertwine. They're not technically monographs, but they give a more complete picture of creative life: not only the tawdry personal details, but also the professional sense the subject carries to a building site. The two inevitably connect. Richard Meier's memoir Building the Getty (A.A. Knopf, 1997), for all its arrogant, onesided score-settling, dignifies its shelf life by giving the reader a sense of the realpolitik, the clash of egos, the internecine ink shed on a construction project one seldom hears about during an architect's career. However, with few notable exceptions, only after death does the practitioner become truly human in books.

#### Nothing but flowers

During their lives, architects tend to view their monographs as essays in hagiography: They trumpet their own transcendent virtues while editing out the weak moments. Geoffrey Baker's latest four-color dossier on Antoine Predock from Academy Editions, for example, explores the architect's Arizona Science Center in Phoenix. The text alongside the building photographs includes terms such as "surreal ambience," "exuberance," and "celestial," all of which are accurate, but incomplete, characterizations of the particular work. The installment goes on to excerpt praise for the building taken from a July 1997 article in this magazine while omitting the review's more biting criticism.

Andrea Oppenheimer Dean's *Centerbrook Volume 2* (Rockport, 1997) reads like a yearbook full of fond memories, and compares the firm's work to Frank Lloyd Wright. It gives equal homage to Centerbrook's successes, such as its Nauticus National Maritime Center in Norfolk, Virginia, and to its embarrassments, such as its dull additions to the Norton Museum of Art in West Palm Beach, Florida, all under the bailiwick of "broad stylistic diversity." It's not so much bad as mortally boring.

You would not expect the publishers of these twee tomes to invest in self-flagellation. "We're not going to get people talking about how they've failed," notes one editor. "But we like to include some of their personality and quirkiness." For instance, in Rizzoli's Koetter Kim & Associates (1997), Colin Rowe paints lively pictures of the principals in his introductory essay: of Susie Kim as a calculating haggler in antique stores; of Fred Koetter as a "Marlboro Man" who was thrown off the Cornell faculty in 1964, long before becoming dean at Yale.

#### A new medium

Just as the number of new annual titles reaches a deluge, architects are beginning to exploit the World Wide Web to get their work in front of clients. They have also begun developing CD-ROMs suited to their marketing needs. Global electronic media is infinitely better suited to self-promotion because, price per volume, they cost less to assemble and are easier to fake.

It would be good for the book market if the hangers-on dropped from the bookshelf into the ether of cyberspace. But it's unlikely. The eagerness of publishers like **Rockport and Academy Editions** to release so-so titles suggests quality standards have been warped to blasphemous effect. Two classes of "monograph" have emerged: the genuine articles, definitive statements on a landmark designer's oeuvre, and pretentious counterfeits, settling for mild-mannered propaganda and architectural pornography.

#### **CONSTRUCTION COST COMPARISONS PER SQUARE FOOT • AUGUST 1998**





	<b>DEPARTMENT STORE, 3 STORY</b> Face brick with concrete block back-up on a steel frame		APARTMENT BUILDING, 1-3 STORY Face brick with concrete block back-up with steel joint		PARKING GARAGE Face brick with concrete block back-up on a reinforced concrete frame	
	3rd Q 1998	3rd Q 1997	3rd Q 1998	3rd Q 1997	3rd Q 1998	3rd Q 1997
Atlanta	\$61.32	60.91	78.40	77.99	23.30	22.85
Boston	81.23	81.37	102.99	102.57	30.78	30.06
Chicago	77.03	77.17	97.83	97.27	29.07	28.50
Dallas	60.15	60.29	76.39	75.99	22.70	22.27
Kansas City	66.49	66.56	84.44	82.07	25.09	24.05
Los Angeles	77.24	77.51	98.09	97.71	29.20	28.63
New York City	93.50	93.57	119.11	117.94	35.44	34.56
Phoenix	62.42	62.49	79.28	78.77	23.76	23.08
St. Louis	71.10	71.31	90.30	89.89	26.83	26.34
San Francisco	86.75	86.75	110.16	109.34	32.73	32.04
Seattle	73.03	73.52	93.02	92.67	27.56	27.16
Washington, D.C.	66.97	66.56	85.05	83.90	25.27	24.58

Each month Architecture takes a snapshot of U.S. construction – looking at average costs and actual upcoming projects for different building types on a rotating basis. News on projects is provided by Construction Market Data (CMD). Costs are supplied by R.S. Means Co.

NOTE: Cost comparisons shown here are for the basic building without sitework, development, land, specialty finishes or equipment. Actual square foot costs vary significantly from project to project based on quality, complexity and local economy.

©1998, R.S. Means, A Construction Market Data Group Company. For more cost information, contact Means at 800.448.8182.

#### Nordstrom at Mall of Georgia

Bit ..

Location: Highway 20 at Interstate 985, Buford, Gwinnett County, GA Project Value: \$20 million Size: 225,000 sq ft, 1 floor above grade, 1 structure Contract Type: Open Bidding Current Project Stage: Planning; Working Drawings Status: Working Drawings in Progress: Bid Schedule Not Set Project Scope: Retail Area, Restrooms, Storage **Owner:** Corporate Property Investors; David Kilzer; Ernest Barrett Parkway; Kennesaw, GA 30144 Phone: 770.428.8650 Architect: Callison Partnership; Art Tiller; 1420 Fifth Avenue, Suite 2400: Seattle, WA 98101-2343 Phone: 206.623.4646 Fax: 206.623.4625

#### **Rivertown Crossings JC Penney**

Location: Rivertown Road & Wilson Avenue, Grandville, Kent County, MI Project Value: \$5.65 - \$7.65 million Size: 105,000 sq ft, 2 floors above grade, 1 structure Contract Type: Negotiated Current Project Stage: Planning; **Preliminary Plans** Status: Preliminary Plans in Progress; Concrete/Foundation Subbids 6/23/98; Steel Subbids 7/3/98 **Owner's Representative & Architect:** J Howard Nudell Architects: 30600 Northwestern Highway, Suite 305; Farmington Hills, MI 48334 Phone: 248.626.8100 Fax: 248.626.0337

#### Hamptons at Coral Springs Apartments

Location: Coral Ridge Drive, Coral Springs, Broward County, FL Project Value: \$25 million Size: 45 acres, 700,000 sq ft, 2 floors above grade, 294 units, 49 structures Contract Type: Open Bidding Current Project Stage: Planning; Working Drawings Status: Working Drawings Complete: Owner Negotiating with GC **Owner:** Zom Development Inc.; David Biggs; 2269 Lee Raod; Winter Park, FL 32789 Phone: 407.644.6300 Architect: Mouriz Salazar & Associates; Jose Saumelo; 7855 SW 104th Street, Suite 230; Miami, FL 33156 Phone: 305.273.9911 Fax: 305.273.9424 **Affordable Apartment Complex** Location: 60th & Glisan, Portland, Multnomah County, OR

Project Value: \$23 million Size: 183,585 sq ft, 5 floors above grade, 140 units, 25 structures Contract Type: Negotiated Current Project Stage: Planning; Working Drawings Status: Working Drawings in Progress; Subbid Schedule Not Set **Owner:** City of Portland Development Council; Connie Lively; 1120 SW Fifth Avenue; Portland, OR 97204 Phone: 503.823.3200 Architect: Otak Architects; Dennis Haden; 17355 SW Boones Ferry Road: Lake Oswego, OR 97035 Phone: 503.635.3618 Fax: 503.635.5395

#### **Queens 7 Garage Annex**

Location: 122nd Street, Queens, Queens County, NY Project Value: \$23 million Size: 82,000 sq ft, 1 floor above grade, 1 structure, 31 parking spaces Contract Type: Open Bidding Current Project Stage: Planning: Design Development Status: Design Development in Progress; **Bid Schedule Not Set** Owner: New York City Department of Sanitation; Ronald Blendermann; 51 Chambers Street, Contract Division; New York, NY 10007 Phone: 212.219.8090 Architect: Gonchor Karlsberger; Howard Feider; 192 Lexington Avenue; New York, NY 10016 Phone: 212.685.2883 Fax: 212.779.9592 Seattle Seahawks Exhibition Ctr/Pkg Garage Location: 201 South King Street, Seattle, King County, WA Project Value: \$50 - \$60 million Size: 940,000 sq ft, 6 floors above grade. 2 structures, 2,000 parking spaces Contract Type: Negotiated Current Project Stage: Planning; Working Drawings Status: Working Drawings in Progress; GC to Take Subbids Owner: Public Stadium Authority; Phil Cushlan; 401 2nd Avenue, Suite 520; Seattle, WA 98104 Phone: 206.205.8600 **Owner's Representative:** Ellerbe Becket: Bill Crockett; 605 W 47th Street, Suite 200; Kansas City, MO 64112 Phone: 816.561.4443

Fax: 816.561.2863

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UPCOMING

PROJECTS

## last word

Once upon a time, the prospect of a lecture on architecture drew a yawn from most people. Fifteen or 20 years ago at New York City's Architectural League, recalls California architect Eric Owen Moss, "Mick Jagger could have shown up and it wouldn't have made a difference."

Today, architecture has entered full force into the star system and everybody is clamoring for its biggest celebrities. The architecture lecture has become a sort of intellectual rock concert, drawing not only crowds of students and architects, but the general public and television crews as well. When Zaha Hadid or Frank Gehry speaks, people are turned away at the door. Schools do provide a broader view of the profession by offering talks by architects whose careers aren't as overheated and who welcome lecturing as a rare opportunity to reflect on their own work. "You can't think during a normal day at the office," says Hardy, who gives about six lectures per year. Lecturing "forces you to think. It's exhilarating. I try not to give the same talk twice."

Lecturing can also provide a platform for an agenda that goes beyond an architect's own work. Eva Maddox, an architect in Chicago and co-founder of the Archeworks school (*Architecture*, April 1998, pages 53-56), pushes the

Public speaking gains cachet among architects, but is the star system sending the wrong message? According to Alice Blank, a New York City architect who organizes lectures at The Catholic University of America in Washington, D.C., every university has a lecture series to expose students to the "real world" of working professionals. But the pressure to bring in stars can defeat a lecture curator's attempt to shape a coherent series. "Lectures are funded by people at universities who like big names," says Blank. "But these architects often don't address the theme."

And while large-scale events inflate a school's prestige and please its alumni, star pursuit can send a potentially damaging message to the next generation of architects, few of whom will ever land a commission for another Guggenheim Bilbao. "I'm not sure it teaches young people to think critically," argues Moss. "It conveys the message that if someone is in the magazines, they should be deified." Students guickly become savvy about speakers' status and choose the lectures they attend accordingly. Moss says there is something disingenuous about architects talking to young, idealistic audiences, but less frequently to audiences of peers. "The star system reinforces the notion that architecture is a product that you buy and sell, not a service for the client," says Hugh Hardy, principal at Hardy Holzman Pfeiffer Associates in New York City.

notion that designers, with their ability to understand systems, can help solve complex societal problems—a theme that also modestly promotes Archeworks and its interdisciplinary program. Similarly, William McDonough, dean of the school of architecture at the University of Virginia (UVA), concentrates his talks on design's potential impact on ecological and economic sustainability and social justice—subjects he has attempted to make the focus of study at UVA.

So why lament the incursion of the star system into architecture schools, especially if there is room for a wide range of views? After all, architecture's growing media exposure might actually convince more developers, public officials, and CEOs that design does matter. And the sexier the profession, the more talented young people it will attract. Exposure to successful architects can inspire students. But in wooing star architects, the schools conflate fame and quality. This is a dubious proposition that can result in encouraging unreflective, copycat architecture among students who may not be mature enough to be discerning. Fame may be fleeting, but a bad building can stick around for a long time. Andrea Truppin

Andrea Truppin is a New York City-based journalist and documentary filmmaker.

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